AIWA-04090

aiwa

MD/CD STEREO SYSTEM

XR-MD510

OPERATING INSTRUCTIONS

8A-CJ4-905-11
000420BYK-H-0

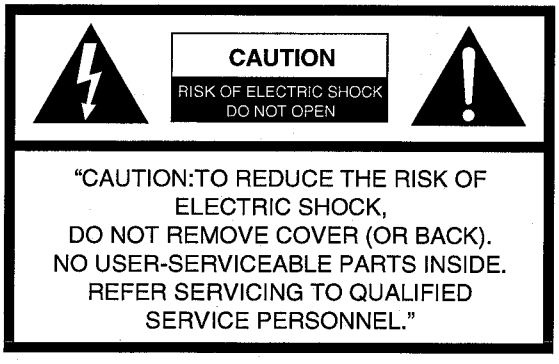
K

Mini Disc

COMPACT disc DIGITAL AUDIO

WARNING

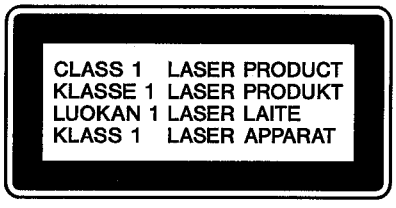
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
"CAUTION:TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL."

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This compact disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the exterior.



CAUTION!

Invisible laser radiation when open and interlocks defeated. Avoid exposure to beam.

WARNING

This appliance is supplied with a fitted three pin mains plug. A 5 amp fuse is fitted in the plug.
Should the fuse need to be replaced, use a 5 amp fuse approved by ASTA or BSI to BS1362. When replacing the fuse, you must ensure that any removable fuse covers are correctly refitted.
If you should lose the fuse cover, please contact your nearest AIWA dealer.

DO NOT CUT OFF THE PLUG FROM THIS APPLIANCE. If the plug fitted is not suitable for the power points in your home, or the cable is too short to reach a power point, obtain an appropriate safety approved extension lead or adaptor. If in any doubt please consult a qualified electrician.

If the plug is cut off, remove the fuse and dispose of the plug immediately. **THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.**

If a new plug is to be fitted please ensure it contains a 5 amp fuse, otherwise the circuit should be protected by a 5 amp fuse at the distribution board.

IMPORTANT

The wires in the mains lead are coloured in accordance with the following code:

BLUE – NEUTRAL
BROWN – LIVE

As the colours of the wires in the mains lead of this appliance may not correspond with the colour markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked by the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked by the letter L or coloured RED.

DO NOT connect either the BLUE or BROWN wires in the mains lead to the earth terminal (marked with the letter E or by the earth symbol ⏚ or coloured GREEN or GREEN/YELLOW) of a three pin plug.

PRECAUTIONS

Read the Operating Instructions carefully and completely before operating the unit. Be sure to keep the Operating Instructions for future reference. All warnings and cautions in the Operating Instructions and on the unit should be strictly followed, as well as the safety suggestions below.

Installation

1 **Water and moisture** – Do not use this unit near water, such as near a bath, sink, swimming pool, or the like.
2 **Heat** – Do not use this unit near sources of heat, including heating vents, stoves, or other appliances that generate heat. It also should not be placed in temperatures less than 5°C or greater than 35°C.
3 **Mounting surface** – Place the unit on a flat, even surface.
4 **Ventilation** – The unit should be situated with adequate space around it so that proper heat ventilation is assured. Allow 10 cm clearance from the rear and the top of the unit, and 5 cm from each side.
   - Do not place the unit on a bed, rug, or similar surface that may block the ventilation openings.
   - Do not install the unit in a bookcase, cabinet, or airtight rack where ventilation may be impeded.
5 **Objects and liquid entry** – Take care that objects or liquids do not get inside the unit through the ventilation openings.
6 **Carts and stands** – When placed or mounted on a stand or cart, the unit should be moved with care.
   Quick stops, excessive force, and uneven surfaces may cause the unit or cart to overturn or fall.
7 **Condensation** – Moisture may form on the CD pickup lens when:
   - The unit is moved from a cold spot to a warm spot
   - The heating system has just been turned on
   - The unit is used in a very humid room
   - The unit is cooled by an air conditioner
   When this unit has condensation inside, it may not function normally. Should this occur, leave the unit for a few hours, then try to operate again.
8 **Wall or ceiling mounting** – The unit should not be mounted on a wall or ceiling, unless specified in the Operating Instructions.

Electric Power

1 **Power sources** – Connect this unit only to power sources specified in the Operating Instructions, and as marked on the unit.

2 **AC power cord**
- When disconnecting the AC power cord, pull it out by the AC power plug. Do not pull the cord itself.
- Never handle the AC power plug with wet hands, as this could result in fire or shock.
- Power cords should be firmly secured to avoid being severely bent, pinched, or walked upon. Pay particular attention to the cord from the unit to the power socket.
- Avoid overloading AC power sockets and extension cords beyond their capacity, as this could result in fire or shock.

3 **When not in use** – Unplug the AC power cord from the AC socket if the unit will not be used for several months or more. When the cord is plugged in, a small amount of current continues to flow to the unit, even when the power is turned off.

Maintenance

Clean the unit only as recommended in the Operating Instructions.

Damage Requiring Service

Have the unit serviced by a qualified service technician if:
- The AC power cord or plug has been damaged
- Foreign objects or liquid have got inside the unit
- The unit has been exposed to rain or water
- The unit does not seem to operate normally
- The unit exhibits a marked change in performance
- The unit has been dropped, or the cabinet has been damaged

DO NOT ATTEMPT TO SERVICE THE UNIT YOURSELF.

TABLE OF CONTENTS

PRECAUTIONS 2

PREPARATIONS

CONNECTIONS 4
REMOTE CONTROL 6
BEFORE OPERATION 6
DIMMING THE DISPLAY WINDOW BRIGHTNESS (DIMMER) 7
SETTING POWER ECONOMIZING MODE 7
USING THE MAGICAL CHANGE PANEL 8

SOUND

AUDIO ADJUSTMENTS 8

RADIO RECEPTION

MANUAL TUNING 10
PRESETTING STATIONS 11

TAPE PLAYBACK

BASIC OPERATIONS 12

CD PLAYING

BASIC OPERATIONS 14
RANDOM/REPEAT PLAY 15
PROGRAMMED PLAY 15
BLANK SKIP FUNCTION 16

MD PLAYING

BASIC OPERATIONS 17
RANDOM/REPEAT PLAY 18
PROGRAMMED PLAY 18

TAPE RECORDING

BASIC RECORDING 19
AI EDIT RECORDING 20
PREOGRAMMED EDIT RECORDING 21

MD RECORDING

VARIOUS WAYS OF MD RECORDING 22
ABOUT THE INDEX MARK 22
RECORDING A WHOLE CD 23
RECORDING ONLY ONE TRACK 24
PROGRAMMED RECORDING OF A CD 24
RECORDING FROM A TAPE, THE RADIO OR CONNECTED EQUIPMENT 25
EXTENDED RECORDING - MONAURAL RECORDING 26
SIMULTANEOUS RECORDING TO TAPE AND MD FROM CD 27

MD EDIT

WHAT IS A MINI DISC (MD)? 28
REGISTERING THE DISC TITLE AND TRACK TITLE 29
DIVIDING A TRACK 30
COMBINING TWO TRACKS 31
CHANGING THE ORDER OF THE TRACKS 31
ERASING TRACKS 32

CLOCK AND TIMER

SETTING THE CLOCK 33
SETTING THE TIMER PLAYBACK AND TIMER RECORDING 33
SLEEP TIMER 35

OTHER CONNECTIONS

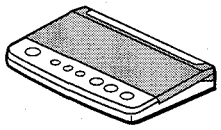
CONNECTING OPTIONAL EQUIPMENT 36
LISTENING TO EXTERNAL SOURCES 36

GENERAL

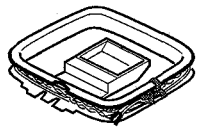
CARE AND MAINTENANCE 37
TROUBLESHOOTING 38
MD GUIDE MESSAGES 39
DISPLAY INFORMATION 40
SPECIFICATIONS 41
PARTS INDEX 42

CONNECTIONS

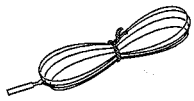
Check your accessories



Remote control



MW/LW loop antenna



FM antenna

Operating Instructions, etc.

Before connecting the AC cord

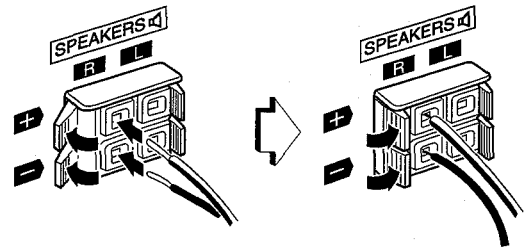
The rated voltage of your unit shown on the rear panel is 230 V AC. Check that the rated voltage matches your local voltage.

IMPORTANT

- Connect the speakers, antennas, and all optional equipment first. Finally, connect the AC cord.
- There are no differences between the front speakers. Both speakers can be connected as L (Left) or R (Right).

1 Connect the speaker cords to the main unit.

The cords with the white stripes should be connected to the ⊕ terminals and the other cords to the ⊖ terminals.

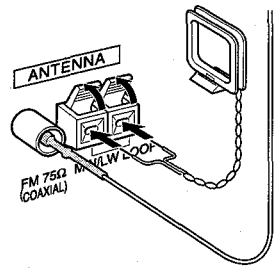


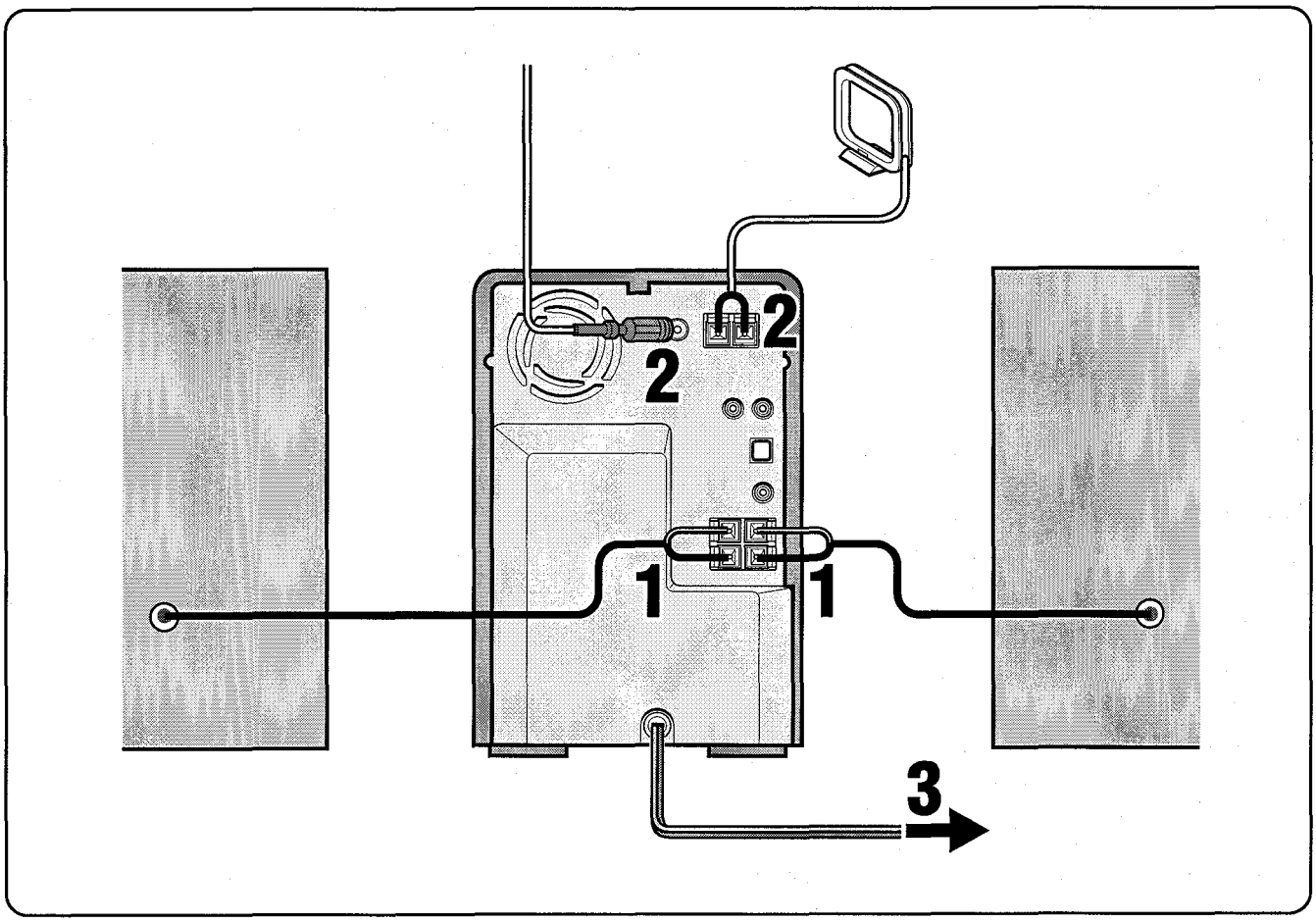
2 Connect the supplied antennas.

Connect the FM antenna to the **FM 75** Ω terminal and the MW/LW loop antenna to the **MW/LW LOOP** terminals.

MW/LW loop antenna

FM antenna





3 Connect the AC cord to an AC power socket.

The demo display will begin when the AC cord is plugged into an AC power socket for the first time after purchase. When the power is turned on, the demo display will end. When the power is turned off, the demo display will begin again.
Until the clock is set, the demo display will begin whenever the power is turned off.
(For setting the clock, see page 33.)

When the clock is set for the first time after purchase

All the display lights turn off when the power is off. (Only the red indicator on the **POWER** button lights up.)
This is because the power economizing mode of the unit is activated, and is not a malfunction. To view the clock in this case, press **CLOCK** while pressing **SHIFT** on the remote control so that the time is displayed for 4 seconds. Besides, the time will be displayed if you set the power economizing mode to "OFF." (See page 7 for details.)

Activating the demo display after settnig the clock

While the unit is turned off, press **DEMO/ECO** on the main unit.
To deactivate the demo display, press **DEMO/ECO** again.

To position the antennas

FM unipolar antenna:

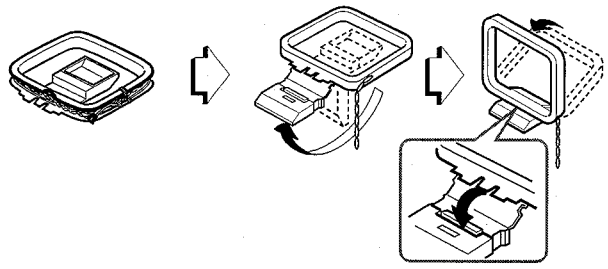
Extend fully and position for the best possible reception. This antenna is of an instant type, so the use of an outdoor antenna is recommended.

MW/LW loop antenna:

Position for the best reception.

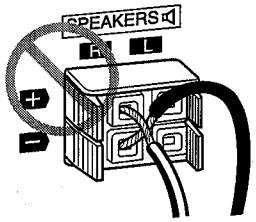
To stand the MW/LW loop antenna on a surface

Fix the claw to the slot.



NOTE

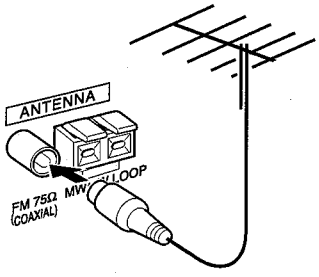
- Be sure to connect the speaker cords correctly. Improper connections can cause short circuits in SPEAKERS terminals.



- Do not leave objects generating magnetism near the speakers, as these objects may be damaged.
- Do not bring the FM antenna near metal objects or curtain rails.
- Do not bring the MW/LW loop antenna near other optional equipment, the stereo system itself, the AC cord or speaker cords, since noise will be picked up.
- Do not unwind the MW/LW loop antenna wire.
- Do not cover the ventilation openings on the rear.

CONNECTING AN OUTDOOR ANTENNA

For better FM reception, use of an outdoor antenna is recommended.
Connect the outdoor antenna to **FM 75** Ω terminal.

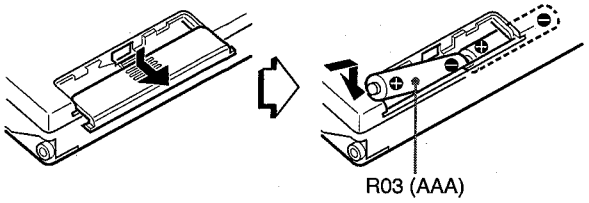


To connect other optional equipment → page 36.

REMOTE CONTROL

Inserting batteries

Detach the battery cover on the rear of the remote control and insert two R03 (size AAA) batteries.

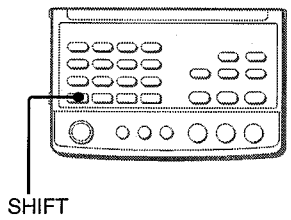


When to replace the batteries

The maximum operational distance between the remote control and the sensor on the main unit should be approximately 5 metres. When this distance decreases, replace the batteries with new ones.

To use the remote control

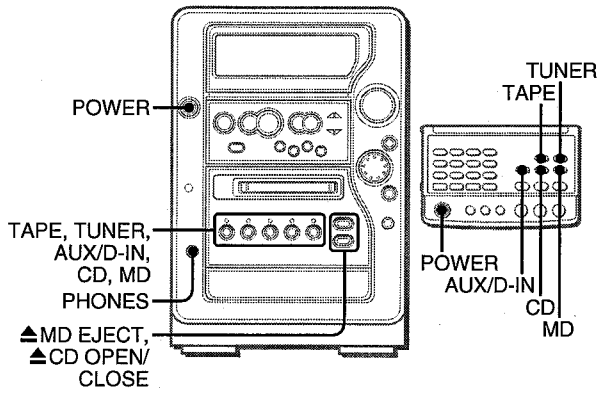
- Buttons on the remote control with the same names as those on the main unit can be used instead. There are operations performed by both the main unit and the remote control, but there are operations performed by the remote control only. Read this manual for each operation and the buttons that can be used.
- The numbered buttons (**0-9**, **+10**) on the remote control have two different functions. To use the function on the button, simply press the button. To use the function on the plate above the button, press the button while pressing **SHIFT**.



NOTE

- If the unit is not going to be used for an extended period of time, remove the batteries to prevent possible electrolyte leakage.
- The remote control may not operate correctly when:
  - The line of sight between the remote control and the remote sensor inside the display window is exposed to intense light, such as direct sunlight
  - Other remote controls are used nearby (those of a television, etc.)

BEFORE OPERATION



To turn the unit on

Press one of the following buttons.

POWER:
The unit is turned on and enters the previously selected function mode.

TAPE:
The unit is turned on and the loaded tape begins to play.

TUNER:
The unit is turned on and tuned in to the previously received radio station.

AUX/D-IN:
The unit is turned on and the playback sound of the connected equipment can be heard.

CD:
The unit is turned on and the loaded CD begins to play.

MD:
The unit is turned on and the loaded MD begins to play.

Pressing **≜MD EJECT** or **≜CD OPEN/CLOSE** also turns the unit on.

To turn the unit off

Press **POWER** again.

Turning on/off the illumination

The unit has an illumination light above the rotary panel.
The illumination light can be turned on in one of the three different colours.
While the power is on, press **ENTER/ILLUNMINATION** on the main unit or **ENTER** on the remote control.
This turns on/off the illumination and changes its colour in the following order:

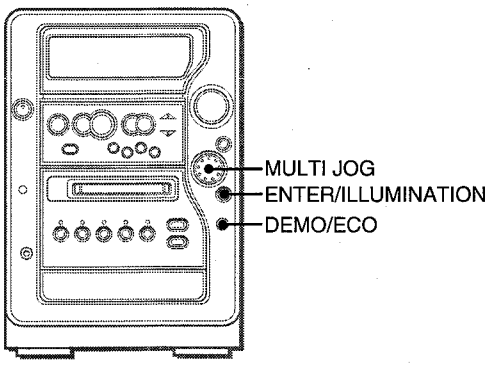
→ ① Turns on in blue
② Turns on in orange
③ Turns on in purple
④ Turns off

NOTE

- The above operation is not possible when **ENTER/ ILLUMINATION** is used as the ENTER button, i.e. when setting the clock, etc.
- Turning on/off the illumination lights is not possible during the demo display or when the display brightness is set to "DIMMER 3" (page 7).
- **Pressing ENTER/ILLUMINATION during MD recording will not turn on/off the illumination but record an index mark on the MD (page 22).**

Using headphones

Connect headphones with a stereo mini plug (ø3.5mm) to the **PHONES** jack.
No sound is heard from the speakers while the headphones are plugged in.

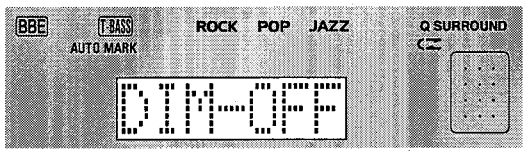


DIMMING THE DISPLAY WINDOW BRIGHTNESS (DIMMER)

The display window brightness can be adjusted to the following four levels: "DIM-OFF", "DIMMER 1", "DIMMER 2", and "DIMMER 3".
"DIM-OFF" is the brightest level.
When "DIMMER 3" is selected, the display is darkest, all button lamps go off, and the illumination light above the rotary panel also goes off.

1 Press DEMO/ECO twice.
"DIM MODE" is displayed.

2 Within 4 seconds, press ENTER/ILLUMINATION.
The currently selected brightness is displayed.
Example: When "DIM-OFF" is selected



3 Within 4 seconds, turn MULTI JOG to select the desired brightness.

DIM-OFF ⟷ DIMMER 1
DIMMER 3 ⟷ DIMMER 2

4 Within 4 seconds, press ENTER/ILLUMINATION.

SETTING POWER ECONOMIZING MODE

Setting this unit to power economizing mode reduces power consumption.

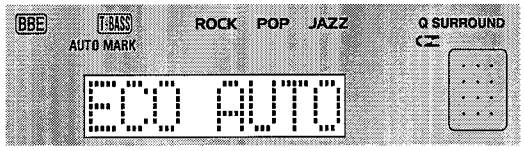
When the power economizing mode is set to ON or AUTO
- When the power shuts off, all indications of the display window including the clock are turned off.
- When the power turns on by timer recording (page 33), the display window brightness is set to "DIMMER 3", all button lamps are off, and the volume is set to the minimum level.
- The display window brightens only when the unit is being operated. When the unit has not been operated for 10 seconds, the brigthtness switches to the level chosen by the "DIM MODE" setting. (If the brightness is set to "DIM-OFF", the brightness does not change.)

When the power economizing mode is set to AUTO
In addition to the above:
- If the tape, CD and MD are stopped and there is no audio input from any connected external equipment for 10 minutes, the power shuts off. (When listening to the radio, however, the power does not shut off automatically.)

1 Press DEMO/ECO.
"ECO MODE" is displayed.

2 Within 4 seconds, press ENTER/ILLUMINATION.
The current power economizing mode status is displayed.
If the power economizing mode is OFF : ECO OFF
If the power economizing mode is ON : ECO ON
If the power economizing mode is AUTO : ECO AUTO

3 Within 4 seconds, turn MULTI JOG to select the desired power eoconomizing mode.
Example: when "AUTO" is selected



4 Within 4 seconds, press ENTER/ILLUMINATION.

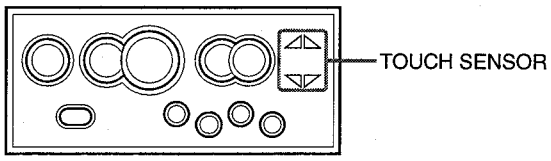
Standby power consumption
When the power economizing mode is OFF : 19.5 W
When the power economizing mode is ON or AUTO : 1.0 W

USING THE MAGICAL CHANGE PANEL

This unit is equipped with the magical change panel (referred to as the "rotary panel" in this Operationg Instructions manual).
Rotating the panel allows you to use different buttons.
To rotate the panel, gently touch **TOUCH SENSOR** on each panel.

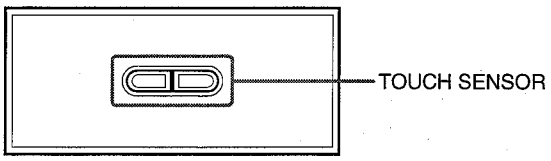
Panel 1 comes in front when you purchase the unit.

Panel 1



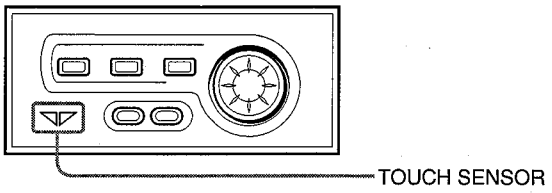
This panel contains the frequently used buttons for all the sound sources.
- Touching **TOUCH SENSOR** ◹◸ makes Panel 2 rotate to front.
- Touching **TOUCH SENSOR** ◿◺ makes Panel 3 rotate to front.

Panel 2



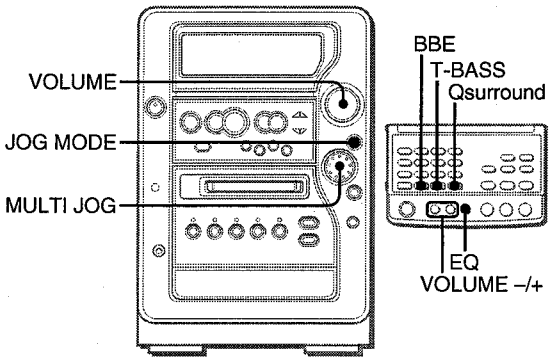
This panel makes the unit's appearance simple. When operating with the remote control, choose this panel according to your preference.
- Touching **TOUCH SENSOR** ⊂⊃ on Panel 2 returns to Panel 1.

Panel 3 (MD EDIT STAGE)



This panel is mostly used when editing an MD.
- Touching **TOUCH SENSOR** ◹◸ on Panel 3 (MD EDIT STAGE) returns to Panel 1.

AUDIO ADJUSTMENTS

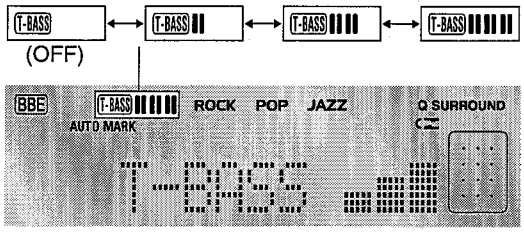


VOLUME

Turn VOLUME on the main unit, or press VOLUME –/+ on the remote control.
The volume level is displayed as a number from 0 to 49 followed by MAX.
When the power is turned off while the volume level is set to 21 or more, the volume level is automatically set to 20.

SUPER T-BASS SYSTEM

The T-BASS system enhances the realism of low-frequency sound. Press **JOG MODE** repeatedly until "T-BASS" appears on the display. Then turn **MULTI JOG** right or left to select one of the three levels, or the off position within 6 seconds. The T-BASS level does not change cyclically.



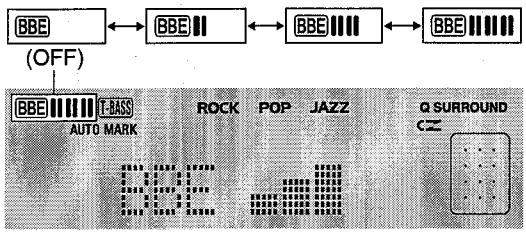
To select with the remote control
Press **T-BASS** repeatedly.

NOTE

Low frequency sound may be distorted when the T-BASS system is used for a disc in which low frequency sound is originally emphasized. In this case, cancel the T-BASS system.

BBE SYSTEM

The BBE system enhances the clarity of high-frequency sound. Press **JOG MODE** repeatedly until "BBE" appears on the display. Then turn **MULTI JOG** right or left to select one of the three levels, or the off position within 6 seconds. The BBE level does not change cyclically.

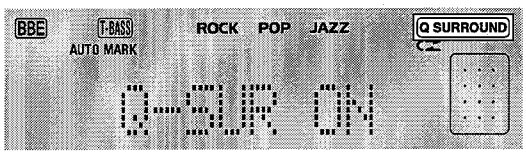


To select with the remote control
Press **BBE** repeatedly.

Q SURROUND SYSTEM

The Q SURROUND system built into this unit uses only two speakers at the left and right to create an atmosphere that sounds as if you are surrounded by two front speakers and two rear speakers.

Press **JOG MODE** repeatedly until "Q-SUR OFF" appears on the display. Then turn **MULTI JOG** so that "Q-SUR ON" appears.
The QSURROUND indicator on the display is encircled as follows:



To cancel the Q SURROUND effect
Repeat the above again to select "Q-SUR OFF".

To operate with the remote control
Press **Qsurround.**

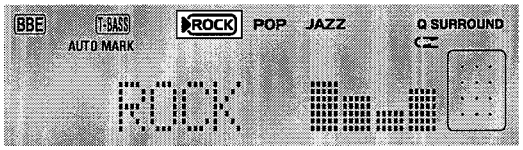
NOTE

- The Q SURROUND system does not work in monaural mode.
- When the Q SURROUND system is on, the sound may be distorted at a higher volume. If this happens, turn the volume down.

GRAPHIC EQUALIZER

This unit provides the following three different equalization curves.
ROCK: Powerful sound emphasizing treble and bass
POP: More presence in the vocals and midrange
JAZZ: Accented lower frequencies for jazz-type music

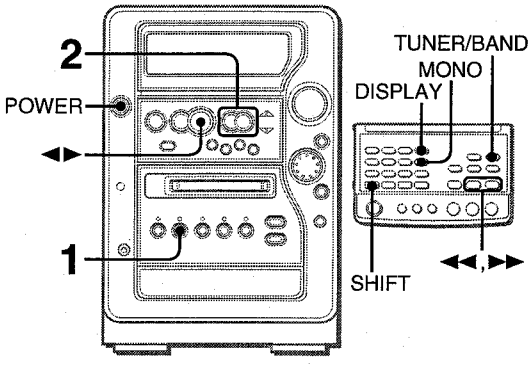
Press **JOG MODE** repeatedly until "EQ" appears on the display. Then turn **MULTI JOG** right or left to select one of the three equalizer modes or the off position within 6 seconds.
Example: When ROCK is selected



To select with the remote control
Press **EQ** repeatedly.

Sound adjustment during recording
The output volume and tone (except the BBE system) of the speakers or headphones may be freely varied without affecting the recording.
Note that changing the BBE system level will affect the recording.

MANUAL TUNING



1 Press TUNER/BAND repeatedly to select the desired band.

FM → MW → LW

If **TUNER/BAND** is pressed while the unit is turned off, the previously tuned station will be played (Direct Play Function).

2 Press ◄◄ or ►► to select a station.

Each time the button is pressed, the frequency changes.
When a station is received, "TUNE" is displayed.
During FM stereo reception, ((◎)) is displayed.

About the level indicator

The above display automatically changes to the level indicator after 4 seconds.
The level indicator shows an approximate playback sound level.

To change the display

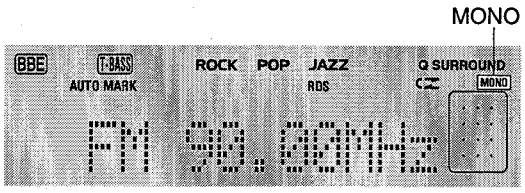
Press **DISPLAY** on the main unit, or press **DISPLAY** while pressing **SHIFT** on the remote control. (See page 40 for details.)

To search for a station quickly (Auto Search)

Keep ◄◄ or ►► pressed until the tuner starts searching for a station. After tuning in a station, the search stops.
To stop the Auto Search manually, press ◄◄ or ►►.
• The Auto Search may not stop at stations with very weak signals.

When an FM stereo broadcast contains noise

Press **MONO** while pressing **SHIFT** on the remote control so that "MONO" lights up on the display.
Noise is reduced, although reception is monaural.



To restore stereo reception, repeat the above again.

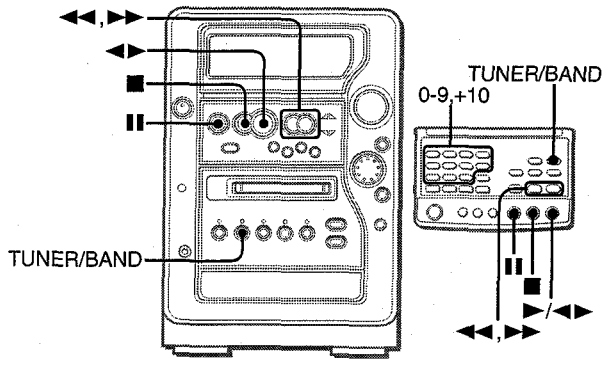
To change the MW tuning interval

The default setting of the MW tuning interval is 9 kHz/step. If you use this unit in an area where the frequency allocation system is 10 kHz/step, change the tuning interval.
On the main unit, press **POWER** while pressing ◄► while the power is on.
To reset the interval, repeat this procedure.

NOTE

When the MW tuning interval is changed, all preset stations are cleared. The preset stations have to be set again.

PRESETTING STATIONS

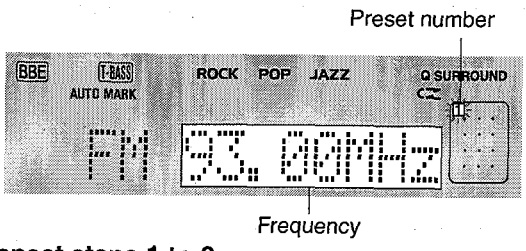


The unit can store a total of 32 preset stations. When a station is stored, a preset number is assigned to the station. Use the preset number to tune in a preset station directly.

***1* Press TUNER/BAND repeatedly to select a band.**

***2* Press ◄◄ *or* ►► to select a station.**

***3* Press II to store the station.**
A station is assigned a preset number, beginning from 1 in consecutive order for each band.



***4* Repeat steps 1 to 3.**
The next station will not be stored if a total of 32 preset stations have already been stored.

PRESET NUMBER TUNING

***1* Press TUNER/BAND to select a band.**

***2* Press ◄► on the main unit or ►/◄► on the remote control.**
Each time the button is pressed, the next ascending preset number is selected.

Tuning by preset number

1 Press **TUNER/BAND** to select a band.
2 Press the numbered buttons on the remote control to select a preset number.
Example:
To select preset number 10, press **+10** and **0**.
To select preset number 15, press **+10** and **5.**

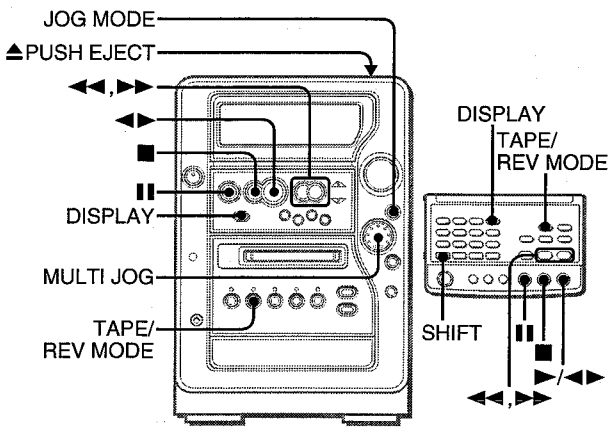
To clear a preset station

Select the preset number of the station to be cleared. Then, press ■, and press II within 4 seconds.
The preset numbers of all other stations in the band with higher numbers are also decreased by one.

NOTE

If there is a long period of power failure or disconnection of AC cord, the presetting of the station is cancelled. In this case, preset again.

BASIC OPERATIONS



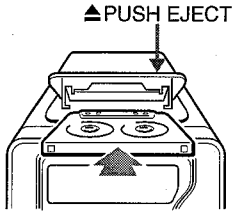
Use panel 1 (page 8).

LOADING A TAPE

- You can select a reverse mode to play back one or both sides.
- Use Type I (normal), Type II (high/CrO_2) or Type IV (metal) tapes for playback.

1 Press TAPE/REV MODE.

2 Press ⏏ PUSH EJECT to open the cassette holder.
Load a tape with the exposed side facing forward, and the side to be played back facing upward.



3 Push the cassette holder to close.

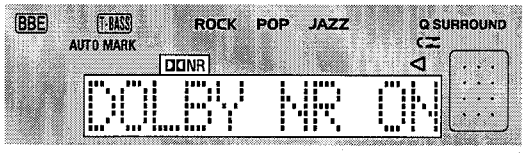
To select a reverse mode
Press **TAPE/REV MODE** repeatedly and the mode changes.

To play one side only, select ⇉.
To play from the side facing upward to the opposite side once only, select ⇉.
To play both sides repeatedly, select ⇄.

PLAYING BACK A TAPE

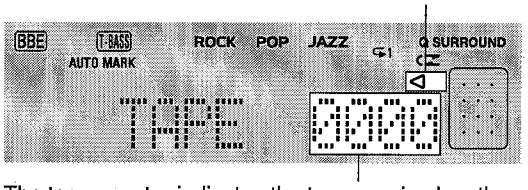
Load a tape.

1 Press JOG MODE repeatedly until "NR OFF" or "DOLBY NR ON" appears on the display, then within 6 seconds, turn MULTI JOG to turn on or off the DDNR indication.
For tapes recorded with DOLBY NR, turn on the DDNR indication. "DOLBY NR ON" is displayed.
For tapes recorded without DOLBY NR, turn off the DDNR indication. "NR OFF" is displayed.



2 Press ◄► on the main unit or ►/◄► on the remote control to start play.
To play the opposite side of the tape, press ◄► (or ►/◄►) again.

Playback side of the tape



The tape counter indicates the tape running length.
(It disappears when no tape is loaded.)

◁: The side facing upward is being played (forward).
▷: The opposite side is being played (reverse).

About the level indicator
The above display automatically changes to the level indicator after 4 seconds.
The level indicator shows an approximate playback sound level.

To stop play, press ■.
To pause play, press ❚❚. To resume play, press again.
To change the playback side, press ◄► in play or pause mode.
To fast forward or rewind, press ◄◄ or ►► in stop mode. Then press ■ to stop the tape.

To start play when the power is off (Direct Play Function)
Press **TAPE/REV MODE.** The power is turned on and play of the loaded tape begins.

To set the tape counter to 0000
Press ■ in stop mode.
The counter is also set to 0000 when the cassette holder is opened.

To change the display in playback mode
Press **DISPLAY** on the main unit, or press **DISPLAY** while pressing **SHIFT** on the remote control. (See page 40 for details.)

MUSIC SENSOR

If there is a 4-second or longer blank between each track, a search for the beginning of the current or next track during playback can be done easily.

When the ◁ indicator on the display is appearing, press ◄◄ to move to the next track or ►► to move to the beginning of the current track.

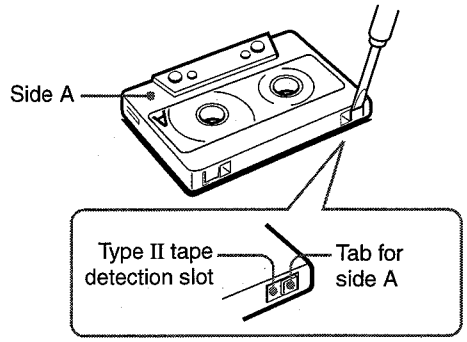
When the ▷ indicator on the display is appearing, press ►► to move to the next track, or ◄◄ to move to the beginning of the current track.

The search function may not be able to detect tracks under the following conditions:

- Blanks of less than 4 seconds between tracks
- Noisy blanks
- Long passage of low-end sound
- Low overall recording levels

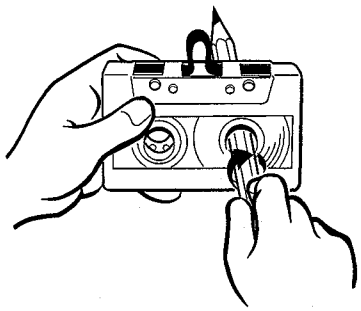
About cassette tapes

- **To prevent accidental erasure,** break off the plastic tabs on the cassette tape after recording with a screwdriver or other pointed tool.



To record on the tape again, cover the tab openings with adhesive tape, etc. (On Type II tapes, take care not to cover the Type II tape detection slot.)

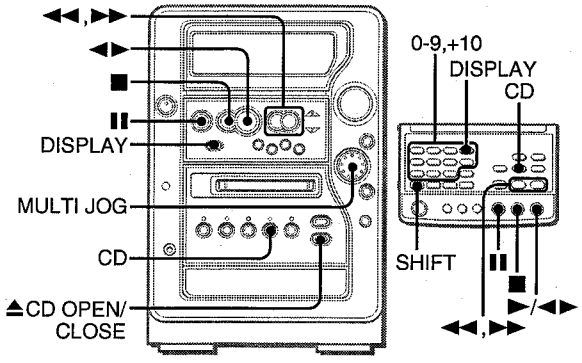
- **120-minute or longer tapes** are extremely thin and easily deformed or damaged. They are not recommended.
- **Take up any slack** in the tape with a pencil or similar tool before use. Slack tape may break or jam in the unit.



DOLBY NR system

The Dolby Noise Reduction system reduces tape hiss noise. For optimum performance when playing back a tape recorded with the DOLBY NR system, turn on the DOLBY NR system.

BASIC OPERATIONS

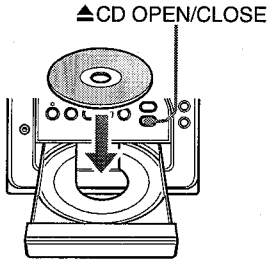


Use panel 1 (page 8).

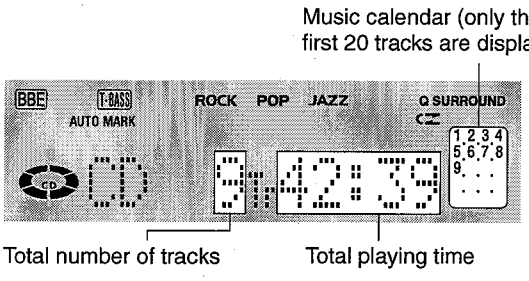
LOADING A DISC

1 Press CD.

2 Press ≜CD OPEN/CLOSE to open the disc compartment.
Load a disc with the label side up.



3 Press ≜CD OPEN/CLOSE to close the disc compartment.

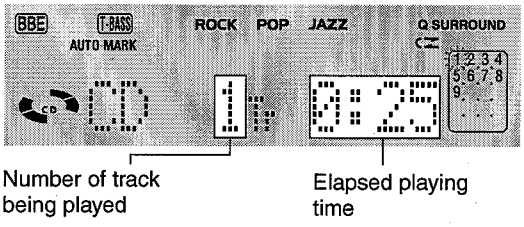


- Pressing ►► repeatedly in stop mode shows the playing time of each track one after another.

PLAYING A DISC

Load a disc.

Press ◄► on the main unit or ►/◄► on the remote control to start play.
The first track begins to play.



About the level indicator
The display automatically changes to the level indicator after 4 seconds.
The level indicator shows an approximate playback sound level.

To change the display
Press **DISPLAY** on the main unit, or press **DISPLAY** while pressing **SHIFT** on the remote control. (See page 42 for details.)

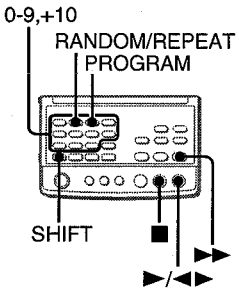
To stop play, press ■.
To pause play, press II. To resume play, press again.
To search for a particular point during play, keep ◄◄ or ►► pressed and release the button at the desired point.
To skip to the beginning of a track during play, press ◄◄ or ►► repeatedly or turn **MULTI JOG.**
The unit skips forward through the tracks when turning it right, and skips back when turning it left.
To remove the disc, press ≜ **CD OPEN/CLOSE.**

To start play when the power is off (Direct Play Function)
Press **CD.** The power is turned on and the loaded disc begins to play.
To replace the disc before play, press ≜ **CD OPEN/CLOSE** to remove the disc.

Selecting a track with the remote control
Press the numbered buttons and **+10** to select a track.
Example:
To select the 25th track, press **+10, +10** and **5.**
To select the 10th track, press **+10** and **0.**
The selected track starts to play and continues to the end of that disc.

NOTE

- The unit may not play a CD-R/RW disc that is recorded on personal computers or some kinds of CD-R/RW recorders because of differences in recording platforms.
- Do not attach any seal or label to either side (the recordable side or the labeled side) of a CD-R/RW disc. It may cause malfunction.
- Do not use irregular shape CDs (example: heart-shaped, octagonal ones). It may result in malfunction.
- Do not try to load another disc while a disc has already been loaded.
- When a CD-RW is loaded, it takes about 15 seconds before it can be played back.



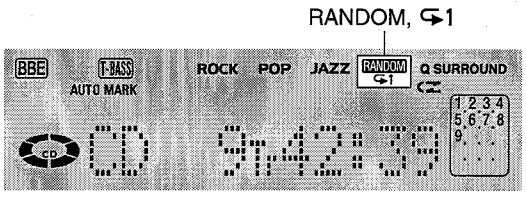
RANDOM/REPEAT PLAY

Use the remote control.

Random play
All the tracks on the disc can be played randomly.

Repeat play
A single track or all tracks can be played repeatedly.

Press RANDOM/REPEAT repeatedly while pressing SHIFT.
Each time it is pressed, the function changes in the following order.



→ ① "↻1": Single track repeat
② "↻": All tracks repeat
③ "RANDOM": Random play
④ "RANDOM" and "↻" : Random/repeat play
└ ⑤ Normal play

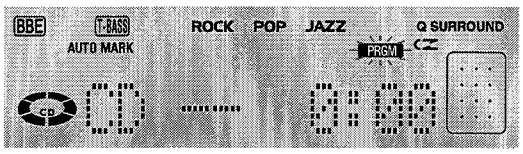
NOTE

During random play, the following operations are not possible.
- selecting tracks directly with the numbered buttons. If a numbered button is pressed, random play will be cancelled.
- going back to a previously played track with ◄◄ or **MULTI JOG**.

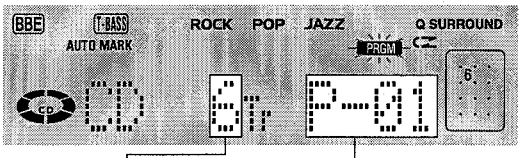
PROGRAMMED PLAY

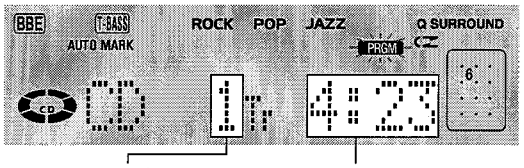
Up to 30 tracks can be programmed from the loaded disc.
Use the remote control.

***1* In stop mode, press PROGRAM while pressing SHIFT so that "PRGM" appears on the display.**



***2* Press the numbered buttons and +10 to program a track.**
Example:
To select the 12th track, press **+10** and **2**.
To select the 20th track, press **+10**, **+10** and **0**.





***3* Repeat step 2 to program other tracks.**

***4* Press ►/◄► to start play.**

To check the program
Each time ►► is pressed in stop mode, a track number and program number will be displayed.

To clear the program
Press ■ in stop mode.
The program is also cleared when you open the disc compartment.

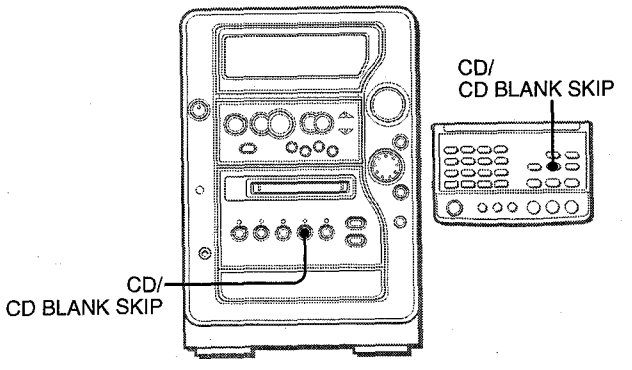
To add tracks to the program
Before playing, repeat step 2. The track will be programmed after the last track.

To change the programmed tracks
Clear the program and repeat all the steps again.

NOTE

- During programmed play, you cannot select the tracks directly with the numbered buttons or perform random play.
- In the following cases, the total playing time of programmed tracks is displayed as "--:--", which means you cannot check the total playing time of programmed tracks, but the programmed tracks are still registered in memory.
  - the total playing time of programmed tracks exceeds 99 minute and 59 seconds.
  - you selected a track having a track number 31 or higher
- Repeating programmed play is also possible.
- The remaining time of play cannot be displayed while performing programmed play.

BLANK SKIP FUNCTION



The silent portions between the tracks recorded on a CD can be skipped during playback.

• Blank skip may not function with some CDs.

1 Press CD/CD BLANK SKIP to select CD as the source.

2 Press CD/CD BLANK SKIP again.

"CD BLANK SKIP ON" will flow from right to left in the display window and ▰▰▸ will appear.

3 Start play.

If the last portion of the track ends with a fadeout (ends with the sound gradually decreasing), the fadeout portion also will be skipped.

To return to normal play

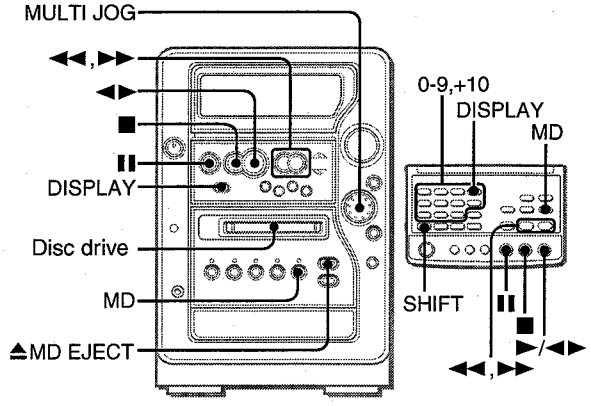
Press **CD/CD BLANK SKIP** again so that ▰▰▸ disappears.

NOTE

It is possible to record from a CD while activating the blank skip function. Before you start recording, make sure ▰▰▸ is lit on the display.

However, when starting the AI edit recording (page 20) or programmed edit recording (page 21), the blank skip function will be cancelled automatically even if this function has been activated.

BASIC OPERATIONS

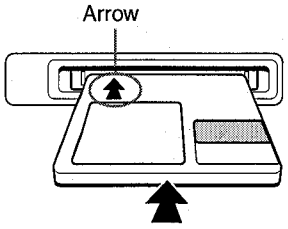


Use Panel 1 (page 8).

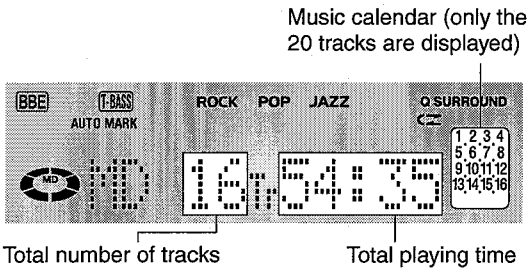
LOADING A DISC

1 Press MD.

2 Insert a disc into the disc drive with the label side up and in the direction of the arrow.



"TOC READING" is displayed while the unit reads the data on the loaded disc. Then the information contained in the disc is displayed.



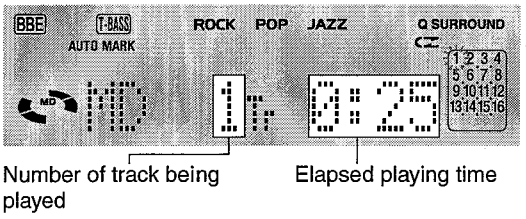
- Pressing ►► repeatedly in stop mode shows the playing time of each track one after another.

PLAYING A DISC

Load a disc.

Press ◄► on the main unit or ►/◄► on the remote control to start play.

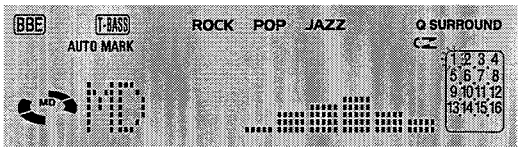
The first track begins to play.



About the level indicator

The above display automatically changes to the level indicator after 4 seconds.

The level indicator shows an approximate playback sound level.



To change the display

Press **DISPLAY** on the main unit, or press **DISPLAY** while pressing **SHIFT** on the remote control. (See page 40 for details.)

To stop play, press ■.

To pause play, press **II**. To resume play, press again.

To search for a particular point during play, keep ◄◄ or ►► pressed and release the button at the desired point.

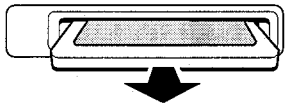
To skip to the beginning of a track during play, press ◄◄ or ►► repeatedly or turn **MULTI JOG**.

The unit skips forward through the tracks when turning it right, and skips back when turning it left.

To eject the disc, press **≙MD EJECT**.

Do not hold the disc when ejecting the disc.

The disc can be ejected by pressing **≙MD EJECT** even when the unit is turned off.



Pull the disc out.

To start play when the power is off (Direct Play Function)

Press **MD**. The power is turned on and the loaded disc begins to play.

Selecting a track with the remote control

Press the numbered buttons and +10 to select a track.

Example:

To select the 25th track, press **+10**, **+10** and **5**.

To select the 10th track, press **+10** and **0**.

The selected track starts to play and continues to the end of that disc.

To play a disc at double speed

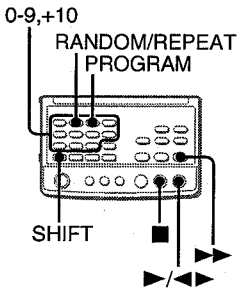
Keep ◄► on the main unit or ►/◄► on the remote control press for 2 seconds during play.

To cancel double speed play, press ◄► (or ►/◄►) again or stop play.

NOTE

Nothing other than an MD should be inserted into the disc drive. Otherwise the disc may become scratched, causing a malfunction or safety hazard such as an electric shock.

RANDOM / REPEAT PLAY

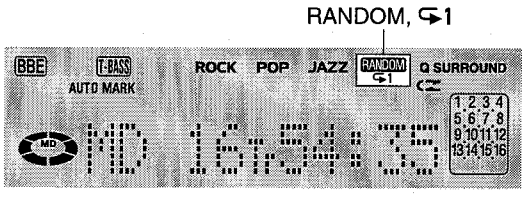


Use the remote control.

Random play
All the tracks on the disc can be played randomly.

Repeat play
A single track or all tracks can be played repeatedly.

Press RANDOM/REPEAT repeatedly while pressing SHIFT.
Each time it is pressed, the function changes in the following order.



① "↻1": Single track repeat
② "↻": All tracks repeat
③ "RANDOM": Random play
④ "RANDOM" and "↻" : Random/repeat play
⑤ Normal play

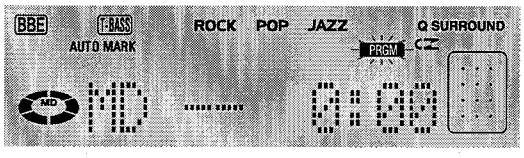
NOTE

During random play, the following operations are not possible.
- selecting tracks directly with the numbered buttons. If a numbered button is pressed, random play will be cancelled.
- going back to a previously played track with ◄◄ or **MULTI JOG**.

PROGRAMMED PLAY

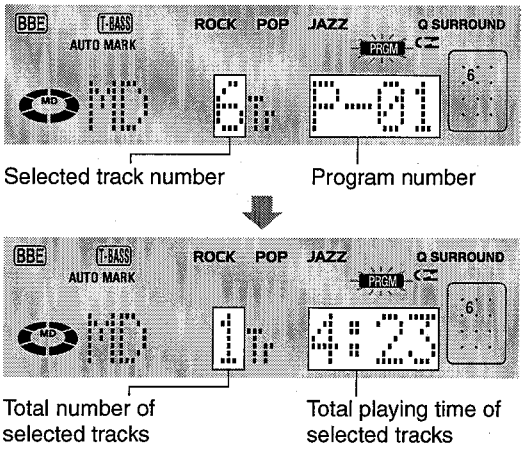
Up to 30 tracks can be programmed from the loaded disc.
Use the remote control.

***1* In stop mode, press PROGRAM while pressing SHIFT so that "PRGM" appears on the display.**



***2* Press the numbered buttons and +10 to program a track.**

Example:
To select the 12th track, press **+10** and **2**.
To select the 20th track, press **+10**, **+10** and **0**.



***3* Repeat step 2 to program other tracks.**

***4* Press ►/◄► to start play.**

To check the program
Each time ►► is pressed in stop mode, a track number and program number will be displayed.

To clear the program
Press ■ in stop mode.
The program is also cleared when you eject the disc.

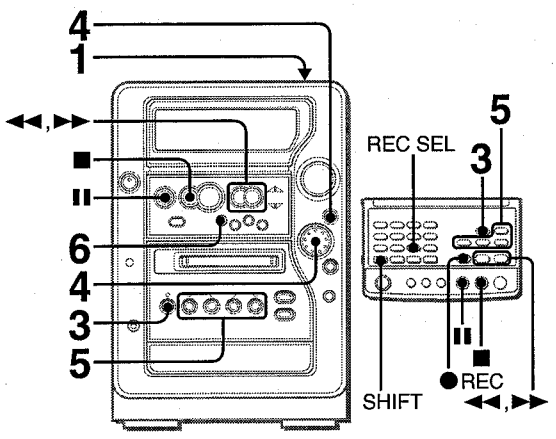
To add tracks to the program
Before playing, repeat step 2. The track will be programmed after the last track.

To change the programmed tracks
Clear the program and repeat all the steps again.

NOTE

- During programmed play, you cannot select the tracks directly with the numbered buttons or perform random play.
- If the total playing time of programmed tracks exceeds 255 minutes and 59 seconds, the total playing time is displayed as "--:--", which means you cannot check the total playing time of programmed tracks, but the programmed tracks are still registered in memory.
- Repeating programmed play is also possible.
- The remaining time of play cannot be displayed while performing programmed play.

BASIC RECORDING



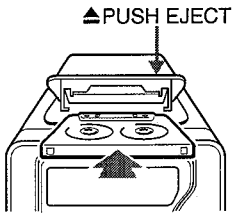
Use Panel 1 (see page 8).

Preparation

- Set the tape to the point where recording will start.
- Use Type I (normal) and Type II (high/CrO_2) tapes for recording.

1 Press ≙ PUSH EJECT to open the cassette holder.

2 Load the tape to be recorded with the side to be recorded on first facing upward.



3 Press TAPE/REV MODE to select the reverse mode.

To record on one side only, select ⇉.
To record on both sides, select ⇄ or ⇆.
When recording from the side facing downward, the tape stops at the end of recording of this side, even if the reverse mode is set to ⇄ or ⇆.

4 Turn on or off the Dolby NR system.

Press **JOG MODE** repeatedly until "NR OFF" or "DOLBY NR ON" appears, then within 6 seconds, turn **MULTI JOG** to turn on or off the DDNR indication. (See page 14, "PLAYING BACK A TAPE" for details.)
To record with Dolby NR, turn on the DDNR indication.
To record without Dolby NR, turn off the DDNR indication.

5 Select and prepare the source to be recorded.

To record from a radio broadcast, press **TUNER/BAND** and tune in to a station.
To record from a CD or MD, press **CD** or **MD** and load the disc and select a track to be recorded first with ◄◄, ►► or **MULTI JOG**.
To record from a connected source:

- **To record from a source equipment connected to DIGITAL IN jack on the rear,** press **AUX/D-IN** repeatedly until "D-IN" appears on the display.
- **To record form a source equipment connected to AUX/ VIDEO IN jacks on the rear,** press **AUX/D-IN** repeatedly until "AUX" appears on the display.

6 Press TAPE REC/REC MUTE to start recording.

When using the remote control, press **REC SEL** repeatedly while pressing **SHIFT** until "TAPE REC" appears. Then within 4 seconds, press **●REC**.
When recording from a CD or MD, CD or MD play and tape recording start simultaneously.
When recording from connected equipment, start play of the connected equipment.

To stop recording, press ■.
When recording from a CD or MD, press ■ again to stop play.
To pause recording, press **II**. (Applicable when recording from a radio broadcast or connected equipment.) To resume recording, press again.

Sound adjustment during recording
The output volume and tone of the speakers or headphones may be freely varied without affecting the recording.
Setting of T-BASS, graphic equalizer or Q SURROUND has no effect on recording.

To record desired tracks of a CD or MD
Select tracks to be recorded by programmed play (pages 15 and 18), and start recording.
In this case, the blank skip function, if activated, will be cancelled automatically.

NOTE

If squealing or beating sounds occur when recording an MW or LW broadcast, press **MONO** on the remote control while pressing **SHIFT** to display "BEAT 1" or "BEAT 2", so as to eliminate the noise.

INSERTING BLANK SPACES

4-second blank spaces can be inserted at the desired point during recording. (Applicable when the source is a radio broadcast or connected equipment.)

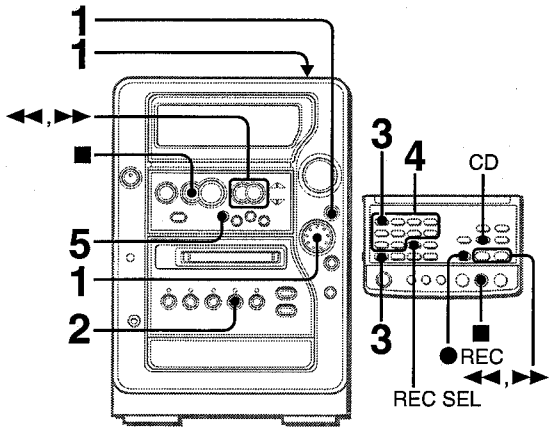
1 Press **TAPE REC/REC MUTE** during recording or while in recording pause mode.
"TAPE REC" flashes for 4 seconds and the tape runs without recording. After 4 seconds, the deck enters the recording pause mode.
2 Press **II** to resume recording.

To insert a blank space of less than 4 seconds, press **TAPE REC/REC MUTE** again while "TAPE REC" is flashing.
To insert a blank space of more than 4 seconds, after the deck enters recording pause mode, press **TAPE REC/REC MUTE** again. Each time the button is pressed, a 4-second blank space is added.

TO ERASE RECORDING

1 Load the tape to be erased into the deck.
2 Set the tape to the point where the erasure is to be started.
3 Press **AUX/D-IN** on the remote control.
If optional equipment is connected to the **DIGITAL IN** or **AUX/ VIDEO IN** jacks, turn it off.
4 Press **TAPE REC/REC MUTE** to start erasure.

AI EDIT RECORDING



The AI edit function enables CD recording without worrying about tape length and track length. When a CD is inserted, the unit automatically calculates the total track length. If necessary, the track order is rearranged so that no track is cut short.
(AI: Artificial Intelligence)

NOTE

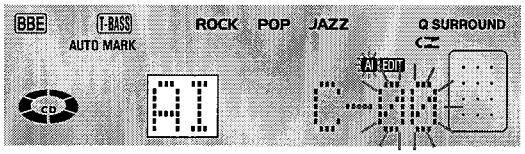
- Use Type I (normal) and Type II (high/CrO_2) tapes for recording.
- AI edit recording will not start from a point halfway into the tape. The tape must be recorded from the beginning of either side.

Use Panel 1 (page 8).

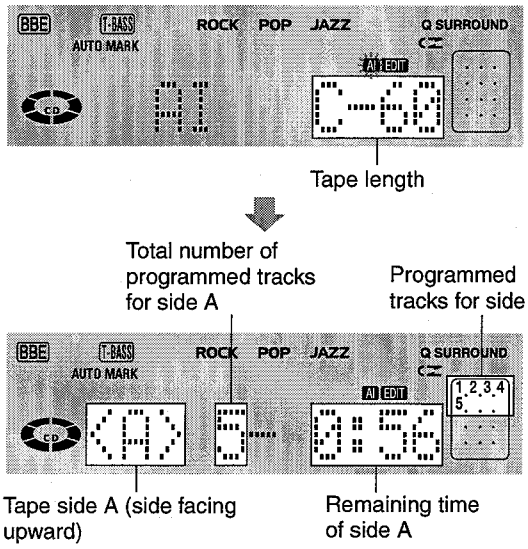
***1* Load the tape, and turn Dolby NR on or off using JOG MODE and MULTI JOG on the main unit. (See page 14, "PLAYING BACK A TAPE" for details.)**
Load the tape with the side to be recorded on first facing upward.

***2* Press CD and load the disc.**

***3* Press CD EDIT/CHECK repeatedly while pressing SHIFT on the remote control until "EDIT" lights up and "AI" flashes on the display.**



***4* Press the numbered buttons on the remote control to designate the tape length.**
10 to 99 minutes can be specified.
Example: When using a 60-minute tape, press the 6 and 0 buttons.
In a few seconds, the microcomputer determines the tracks to be recorded on each side of the tape.
- ◀◀ and ▶▶, or **MULTI JOG** on the main unit are also available to designate the tape length.

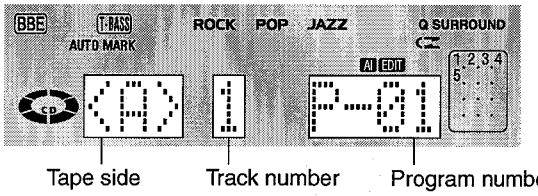


***5* Press TAPE REC/REC MUTE to start recording.**
When using the remote control, press **REC SEL** repeatedly while pressing **SHIFT** until "TAPE REC" appears. Then within 4 seconds, press **●REC**.
The tape is rewound to the beginning of the side facing upward, the lead segment is played through for 10 seconds, and recording starts. When recording on the side facing upward (side A) ends, recording on the opposite side (side B) starts.

To stop recording
Press ■. Recording and CD play stop simultaneously.

To clear the edit program
Press ■ repeatedly in stop mode so that "EDIT" disappears on the display.

To check the order of the programmed track numbers
Before recording, press **CD EDIT/CHECK** while pressing **SHIFT** on the remote control to select side A or B, and press ▶▶ repeatedly.

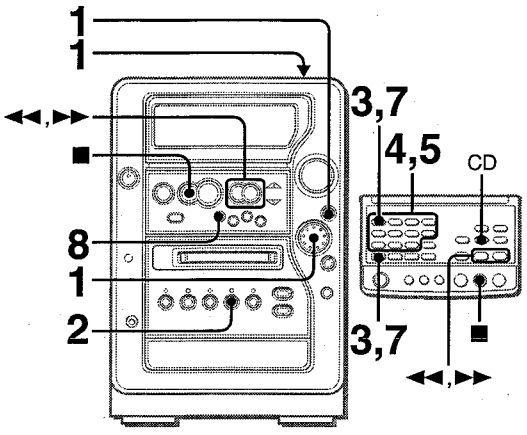


Time on cassette tapes and editing time
The actual cassette recording time is usually a little longer than the specified recording time printed on the label. This unit can program tracks to use the extra time. When the total recording time is a little longer than the tape's specified recording time after editing, the display shows the extra time (without a minus sign mark), instead of the time remaining on the tape (with the minus sign mark).

NOTE

- Recording is prohibited if the erasure prevention tab on either side of the tape is broken off.
- The AI edit function cannot be used with discs containing 31 tracks or more.

PROGRAMMED EDIT RECORDING



Programmed edit function enables CD recording while checking the remaining time on each side of the tape as the tracks are programmed.

NOTE

- The programmed edit recording will not start from a point halfway in the tape. The tape must be recorded from the beginning of either side.
- You can record up to 30 tracks by programmed edit function.
- You can set up to 30th track numbers by programmed edit function.

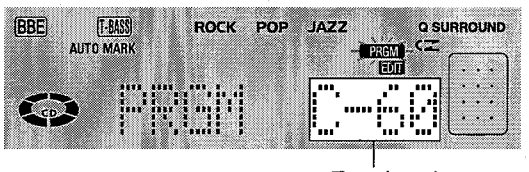
Use Panel 1 (page 8).

1 **Load the tape, and turn Dolby NR on or off using JOG MODE and MULTI JOG on the main unit. (See page 14, "PLAYING BACK A TAPE" for details.)**
Load the tape with the side to be recorded on first facing upward.

2 **Press CD and load the disc.**

3 **Press CD EDIT/CHECK repeatedly while pressing SHIFT on the remote control until "EDIT" lights up and "PRGM" flashes on the display.**

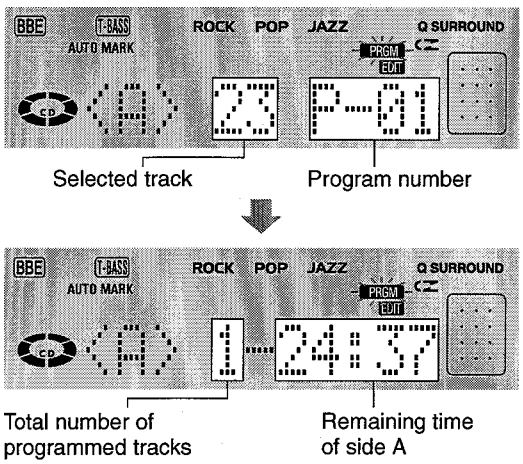
4 **Press the numbered buttons on the remote control to designate the tape length.**
10 to 99 minutes can be specified.
Example: When using a 60-minute tape, press the 6 and 0 buttons.
- ◀◀ and ▶▶, or **MULTI JOG** on the main unit are also available to designate the tape length.



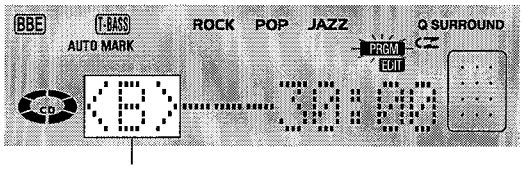
Tape length

5 **Press the numbered buttons to program a track.**
Example: To select the 10th track, press the numbered buttons **+10** and **0**.

6 **Repeat step 5 for the rest of the tracks for side A.**
A track whose playing time is longer than the remaining time cannot be programmed.



7 **Press CD EDIT/CHECK repeatedly while pressing SHIFT on the remote control to select side B and program the tracks for side B.**
After confirming "B" on the display, repeat step 5.



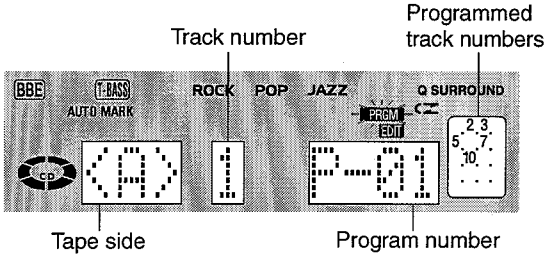
Tape side B (opposite side)

8 **Press TAPE REC/REC MUTE to start recording.**
When using the remote control, press **REC SEL** repeatedly while pressing **SHIFT** until "TAPE REC" appears. Then within 4 seconds, press ●**REC**.
The tape is rewound to the beginning of the side facing upward, the lead segment is played through for 10 seconds, and recording starts. When recording on the side facing upward (side A) ends, recording on the opposite side (side B) starts.

To stop recording
Press ■. Recording and CD play stop simultaneously.

To clear the edit program
Press ■ repeatedly in stop mode so that CD total playing time appears on the display.

To check the order of the programmed track numbers
Before recording, press **CD EDIT/CHECK** while pressing **SHIFT** on the remote control to select side A or B, and press ▶▶ repeatedly.



To change the program of each side
Press **CD EDIT/CHECK** while pressing **SHIFT** on the remote control to select side A or B, and press ■ to clear the program of the selected side. Then program tracks again.

NOTE

Recording is prohibited if the erasure prevention tab on either side of the tape is broken off.

VARIOUS WAYS OF MD RECORDING

Recording through digital inputs
Digital recording of CD audio signals to MDs gives recordings with no degradation in sound quality. You can use any of the following methods to record from CDs to MDs.
- Record a complete CD onto an MD
- Record only one track from a CD
- Record your favorite CD tracks in any order

Recording through analogue inputs
Recording through analogue inputs from the tuner or the external equipment connected to the AUX/VIDEO IN jacks can be made easily. Recording through analogue inputs from a CD is also possible.

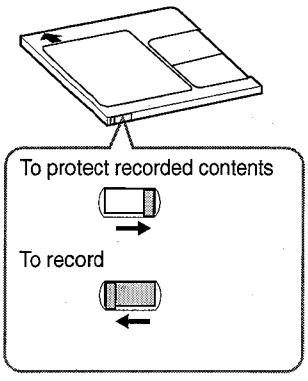
Extended recording
Twice as long as the time printed on the MD can be obtained by using the monaural recording mode.

NOTE
- Nothing other than an MD should be inserted in the disc holder. Otherwise the disc may become scratched, causing a malfunction.
- Do not give a strong shock or disconnect the AC cord during recording or a TOC* recording. Doing so may cause the errors in the TOC recording and the contents cannot be played back.
- During recording, the outer circle of the eye catcher lights up.

* TOC : An abbreviation of Table Of Contents
The TOC data functions as a coded index of the recorded material. The unit records the TOC data such as a playing time and recorded address on an MD.

To check the recordable time on the MD
Select the source other than MD. Then press **DISPLAY** on the main unit or press **DISPLAY** while pressing **SHIFT** on the remote control.
The recordable time on the MD is displayed for 4 seconds.

To prevent accidental erasure of recorded material
Slide the record-protect tab as shown below.
Slide the tab so that it is completely locked.



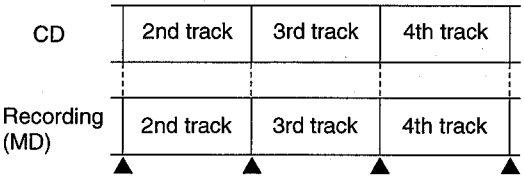
If a recording is attempted when the tab is set to the protected position, "Protected" appears on the display. Move the protect tab to the original position.

ABOUT THE INDEX MARK

You can easily select the desired tracks by registering index marks during recording.
Choose the appropriate method to register index marks.

AUTO MARK FUNCTION

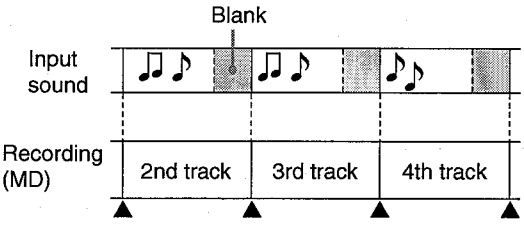
When recording from a CD using CD►MD
The index mark information recorded on the CD is copied.



▲ :Index mark

The auto mark function is applied in the following cases:
–When recording a whole CD onto an MD (page 23)
–When recording one track of a CD onto an MD (page 24)
–When performing programmed recording of a CD (page 24)
You cannot add the index marks using the time mark function described below.

When recording CDs or other sources using MD REC
An index mark is registered automatically when a sound signal is input after a blank section lasting more than 2 seconds.



▲ :Index mark

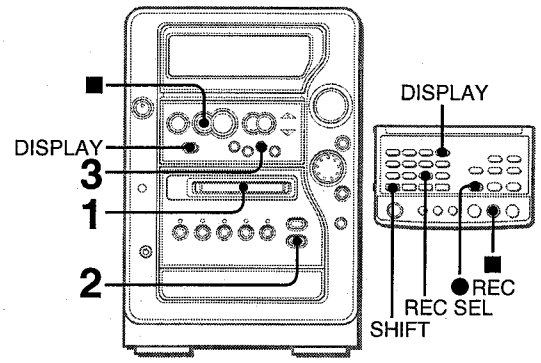
TIME MARK FUNCTION

When recording CDs or other sources using **MD REC** (pages 25 and 26), you can optionally record index mark information at an interval of 5 minutes.
This makes it easy to locate recorded radio broadcast material, etc.

MANUAL MARK FUNCTION

Regardless of the source to be recorded and the button used to start MD recording, you can record index mark information anytime you want by pressing **ENTER/ILLUMINATION** (or by pressing **ENTER** on the remote control).

RECORDING A WHOLE CD

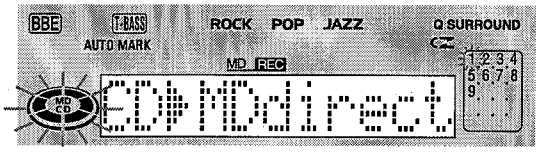


Use Panel 1 (page 8).

***1* Load a recordable MD with the label side up and in the direction of the arrow.**
See page 17 for how to load an MD.

***2* Load the CD to be recorded.**
See page 14 for how to load a CD.

***3* Press CD►MD to start recording.**
When using the remote control, press **REC SEL** repeatedly while pressing **SHIFT** until "CD►MD direct" appears. Then within 4 seconds, press **●REC**.



Recording stops automatically when the last track on the CD finishes playing.
When recording stops, "TOC EDIT" is displayed and the contents (TOC) of the recording are recorded on the MD.

To stop recording before the end of the CD
Press ■. Recording to the MD stops, and the contents (TOC) of the recording are recorded on the MD.
To stop play of the CD, press ■ again.

To record on a previously recorded MD
If there is an unrecorded section left on the MD, the new recording automatically starts from where the previous recording finished.
If you want to start recording from the beginning of a previously recorded MD, erase the previous recording completely. (See page 32.)

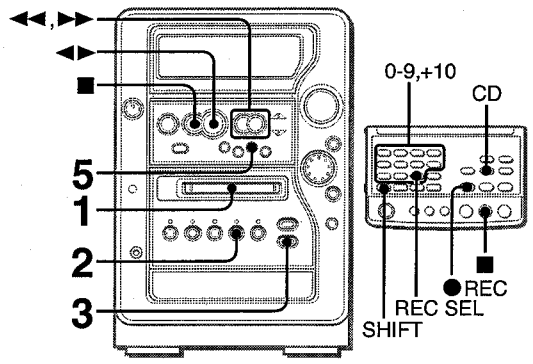
To change the display
Press **DISPLAY** on the main unit, or press **DISPLAY** while pressing **SHIFT** on the remote control. (See page 40 for details.)

When "LONG CD" is displayed
The remaining recordable time of the MD is shorter than the total playing time of the CD.
Replace the MD with another one. If you perform step 3 on the left column, recording will be made up to the limit of the recordable time on the MD.

NOTE

- During recording with **CD►MD**, **II** cannot be used.
- Recording from a CD-R/RW to an MD may be prohibited by the SCMS standard (page 28). In this case, recording stops immediately after you started MD recording. Some very short tracks are added on an MD, so erase them as described in "ERASING A SINGLE TRACK" on page 32.

RECORDING ONLY ONE TRACK



Use Panel 1 (page 8).

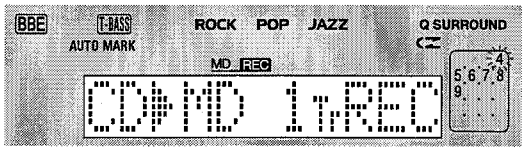
***1* Load a recordable MD with the label side up and in the direction of the arrow.**
See page 17 for how to load an MD.

***2* Press CD.**

***3* Load the CD to be recorded.**
See page 14 for how to load a CD.

***4* Play the track to be recorded.**
Press the numbered buttons on the remote control. Or select the track with ◀◀ or ▶▶ and press ◀/▶ on the main unit.

***5* Press CD►MD to start recording.**
When using the remote control, press **REC SEL** repeatedly while pressing **SHIFT** until "CD►MD direct" appears. Then within 4 seconds, press **●REC**.



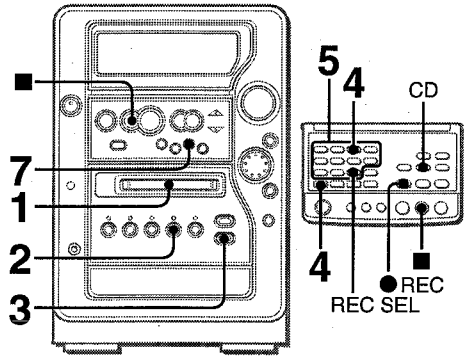
CD playing returns to the beginning of the current track and recording begins.
When the selected track finishes playing, recording stops automatically. When recording stops, "TOC EDIT" is displayed and the contents (TOC) of the recording are recorded on the MD.
The CD play continues to the next track.
To stop the CD play, press ■.

To stop recording before the end of the track
Press ■. Recording to the MD stops, and the contents (TOC) of the recording are recorded on the MD.
To stop play of the CD, press ■ again.

To record on a previously recorded MD
If there is an unrecorded section left on the MD, the new recording automatically starts from where the previous recording finished. If you want to start recording from the beginning of a previously recorded MD, erase the previous recording completely. (See page 32.)

PROGRAMMED RECORDING OF A CD

Up to 30 tracks can be programmed and recorded from the loaded CD. For programming, see page 17.



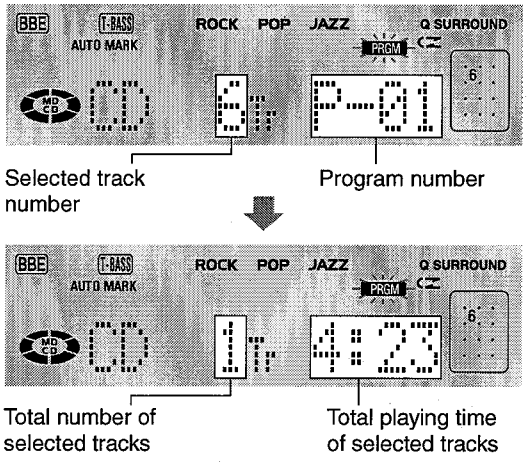
***1* Load a recordable MD with the label side up and in the direction of the arrow.**
See page 17 for how to load an MD.

***2* Press CD.**

***3* Load the CD to be recorded.**
See page 14 for how to load a CD.

***4* In stop mode, press PROGRAM while pressing SHIFT on the remote control.**

***5* Press the numbered buttons and the +10 button to program a track to record.**
Example:
To select the 12th track, press **+10** and **2**.
To select the 20th track, press **+10**, **+10** and **0**.

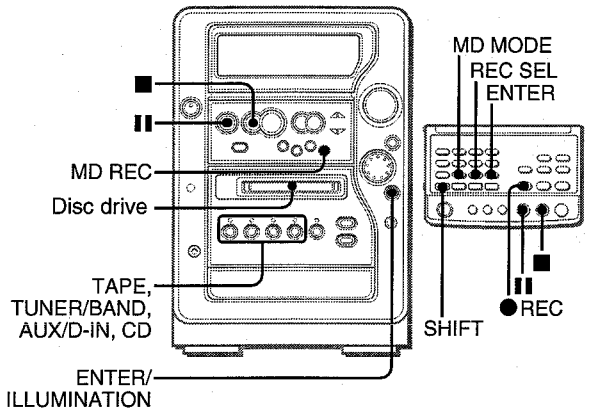


***6* Repeat step 5 to program other tracks.**

***7* Press CD►MD to start recording.**
When using the remote control, press **REC SEL** repeatedly while pressing **SHIFT** until "CD►MD direct" appears. Then within 4 seconds, press **●REC**.
When the programmed tracks finish playing, recording stops automatically.
Then "TOC EDIT" is displayed and the contents (TOC) of the recording are recorded on the MD.

To stop recording halfway
Press ■. Recording to the MD stops, and the contents (TOC) of the recording are recorded on the MD.
To stop play of the CD, press ■ again.

RECORDING FROM A TAPE, THE RADIO OR CONNECTED EQUIPMENT



Use Panel 1 (page 8).

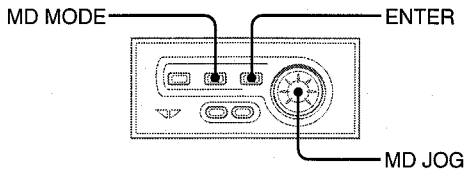
1 Load a recordable MD with the label side up and in the direction of the arrow.

See page 17 for how to load an MD.

2 Prepare the source to be recorded.

- **To record from a tape,** press **TAPE** and insert the tape.
- **To record from the radio,** press **TUNER/BAND** and tune in to a station.
- **To record from equipment connected to the DIGITAL IN jack,** press **AUX/D-IN** repeatedly so that "D-IN" appears on the display.
- **To record from equipment connected to the AUX/VIDEO IN jacks,** press **AUX/D-IN** repeatedly so that "AUX" appears on the display.
- **To record from a CD,** press **CD** and load a CD.

3 Set the rotary panel to Panel 3 (page 8).



Perform steps 4 to 6 on Panel 3.

4 Press MD MODE once.

When using the remote control, press **MD MODE** once while pressing **SHIFT**.
"Mark MODE?" is displayed.

5 Within 10 seconds, press ENTER and turn MD JOG to select an index mark mode.

- **To register index marks automatically at the beginning of each track,** select "Mark: AUTO?".
- **To register index marks every 5 minutes,** select "Mark: TIME?".
- **To record without registering index marks automatically,** select "Mark: OFF?".

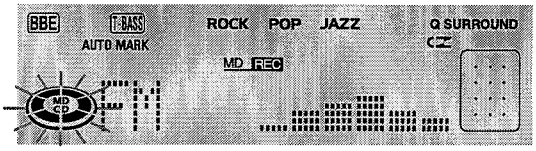
To select an index mode, use MD JOG on the main unit.

6 Within 10 seconds, press ENTER.

7 Set the rotary panel to Panel 1 (page 8).

8 Press MD REC.

When using the remote control, press **REC SEL** repeatedly while pressing **SHIFT** until "MD REC" appears. Then within 4 seconds, press **●REC**.
The unit enters the standby mode. Wait until the source name selected at step 2 is displayed.



9 • When recording from a tape, the radio or a CD: press ❚❚ to start recording.
• When recording from connected equipment: press ❚❚ to start recording, and start playback of the connected equipment.

To stop recording
Press ■.
When recording stops, "TOC EDIT" is displayed and the contents (TOC) of the recording are recorded on the MD.

To pause recording
Press ❚❚. To resume recording, press ❚❚ again.

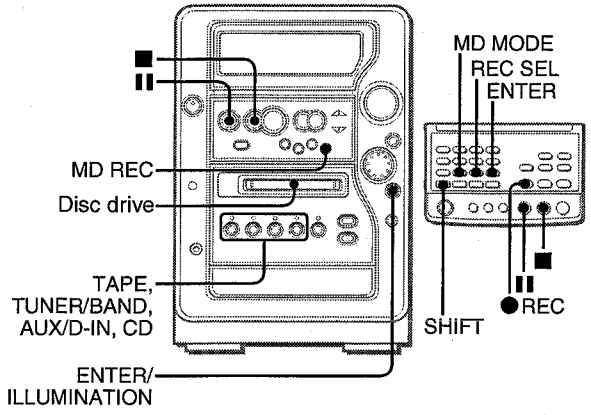
To add index marks during recording
Press **ENTER/ILLUMINATION** on the main unit (or press **ENTER** on the remote control), and an index mark is registered regardless of the index mark mode selected at step 5.

To record on a previously recorded MD
If there is an unrecorded section left on the MD, the new recording automatically starts from where the previous recording finished. If you want to start recording from the beginning of a previously recorded MD, erase the previous recording completely. (See page 32.)

To change the display
Press **DISPLAY** on the main unit, or press **DISPLAY** while pressing **SHIFT** on the remote control. (See page 40 for details.)

EXTENDED RECORDING —MONAURAL RECORDING

Twice as long as the time printed on the MD can be obtained by using the monaural recording mode.

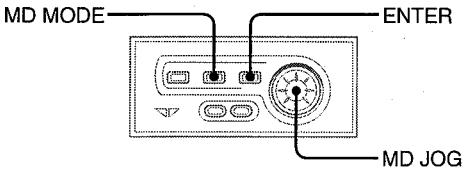


Use Panel 1 (page 8).

1 Load a recordable MD with the label side up and in the direction of the arrow.
See page 17 for how to load an MD.

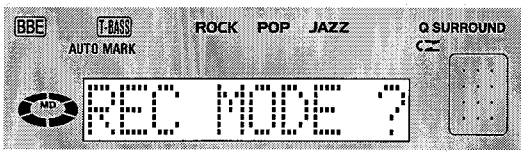
2 Prepare the source to be recorded.
- **To record from a tape,** press **TAPE** and insert the tape.
- **To record from the radio,** press **TUNER/BAND** and tune in to a station.
- **To record from equipment connected to the DIGITAL IN jack,** press **AUX/D-IN** repeatedly so that "D-IN" appears on the display.
- **To record from equipment connected to the AUX/VIDEO IN jacks,** press **AUX/D-IN** repeatedly so that "AUX" appears on the display.
- **To record from a CD,** press **CD** and load a CD.

3 Set the rotary panel to Panel 3 (page 8).



Perform steps 4 to 9 on Panel 3.

4 Press MD MODE twice.
When using the remote control, press **MD MODE** twice while pressing **SHIFT**.
"REC MODE?" is displayed.



5 Within 10 seconds, press ENTER and turn MD JOG so that "REC: MONO?" is displayed.

6 Within 10 seconds, press ENTER.
"MONO" flashes on the display.

7 Press MD MODE once.
When using the remote control, press **MD MODE** once while pressing **SHIFT**.
"Mark MODE?" is displayed.

8 Within 10 seconds, press ENTER and turn MD JOG to select an index mark mode.
- **To register index marks automatically at the beginning of each track,** select "Mark: AUTO?".
- **To register index marks every 5 minutes,** select "Mark: TIME?".
- **To record without registering index marks automatically,** select "Mark: OFF?".

To select an index mode, use MD JOG on the main unit.

9 Within 10 seconds, press ENTER.

10 Set the rotary panel to Panel 1 (page 8).

11 Press MD REC.
When using the remote control, press **REC SEL** repeatedly while pressing **SHIFT** until "MD REC" appears. Then within 4 seconds, press **●REC**.
The unit enters the standby mode. Wait until the source name selected at step 2 is displayed.

12 • When recording from a tape, the radio or a CD: press II to start recording.
• When recording from connected equipment : press II to start recording, and start playback of the connected equipment.

To stop recording
Press ■.
When recording stops, "TOC EDIT" is displayed and the contents (TOC) of the recording are recorded on the MD.

To pause recording
Press II. To resume recording, press II again.

To add index marks during recording
Press **ENTER/ILLUMINATION** on the main unit (or press **ENTER** on the remote control), and an index mark is registered regardless of the index mark mode selected at step 8.

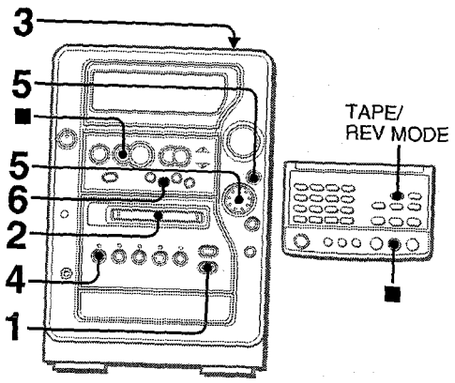
To cancel the extended recording mode
If "MONO" flashes on the display, proceed as follows to cancel the extended (monaural) recording mode.
Use Panel 3 (page 8).

1 Press MD MODE twice ("REC MODE?" is displayed), and within 10 seconds, press ENTER.
"REC STEREO?" is displayed.

2 Within 10 seconds, press ENTER.
"MONO" disappears on the display.

- The extended recording mode will also be cancelled when the source is changed.

SIMULTANEOUS RECORDING TO TAPE AND MD FROM CD



- When recording on a previously recorded MD, the new recording automatically starts from where the previous recording finished.
- Set the tape to the point where recording will start.
- You can select the reverse mode (recording on one side or recording on both sides).
  If you select the recording on both sides, the CD play continues while the side of the tape to be recorded is being changed.

Use Panel 1 (page 8).

1 Load a CD.

2 Load a recordable MD.

3 Insert a tape to be recorded.

4 Select the reverse mode by pressing TAPE/REV MODE.

To record on one side only, select ⇄.
To record on both sides, select (⇄ or (⇉).
When recording from the side facing downward, the tape stops at the end of recording of this side, even if the reverse mode is set to (⇄ or (⇉).

5 Turn on or off the Dolby NR system.

Press **JOG MODE** repeatedly until "NR OFF" or "DOLBY NR ON" appears, then within 6 seconds, turn **MULTI JOG** to turn on or off the DDNR indication. (See page 12, "PLAYING BACK A TAPE" for details.)

6 Press CD►MD&TAPE.

When using the remote control, press **REC SEL** repeatedly while pressing **SHIFT** until "CD►MD/TAPE" appears. Then within 4 seconds, press ●**REC**.
When CD play begins, recording onto MD and tape starts simultaneously.

- If a tape to be recorded or an MD is not loaded, **CD►MD&TAPE** does not function.

When CD play ends
Recording to MD and tape ends automatically.

At the end of recording of an MD or tape
When the MD is recorded to the end, but the tape is still recordable, the recording continues.
When the tape is recorded to the end, but the MD is still recordable, the recording continues.
When both the MD and tape are recorded to the end and if CD play still continues, stop it with ■.

To stop recording
Press ■.
Press ■ again to stop CD play.

NOTE

- It is not possible to pause recording by pressing ❚❚.
- You can set the CD to the random play mode or programmed play mode before starting the simultaneous recording. To do so, after loading a CD at step 1, set the play mode to the desired one.

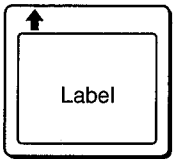
WHAT IS A MINI DISC (MD)?

An MD is only 64 mm in diameter, about half the size of a conventional CD. But still an MD can store and play back the same length of music as a conventional CD, 74 minutes. Unlike a CD, an MD comes in a plastic cartridge, so that it can be handled with ease. The cartridge also protects the disc inside from shocks, dust and scratches. Unlike cassette tapes, which can become stretched or tangled, an MD is an excellent durable media.

TYPES OF MDS

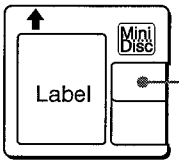
There are two types of MDs: "Optical discs" and "Magneto-optical discs". Both types use laser beams and optical pick-up technology to read recorded data during playback.

Optical discs
These are playback only discs. Like CDs, they are used as prerecorded music discs. You cannot record or edit them.



The shutter covers the opening only on the non-labeled side of the MD.

Recordable MO*1 discs
These are recordable discs which can be recorded on again and again, like cassette tapes. The recording method called magneto-optical technology employs a laser and magnetism to record signals. Therefore, the quality of recorded sound does not deteriorate even after many playbacks and recordings.



The shutter covers the opening on both sides of the MD.

*1 MO: An abbreviation of Magneto Optical

Ultra compact size made possible by ATRAC*2 technology
A newly developed digital audio compression technology called the ATRAC system automatically extracts only the frequencies that are actually audible to the human ear and cuts the frequencies which are inaudible. This compresses the amount of data to be recorded to 1/5 of the normal amount. The ATRAC system is based upon studies carried out in the field of auditory psychology and does not impair the quality of the audible sound.

*2 ATRAC: An abbreviation of Adaptive TRansform Acoustic Coding

Quick random access
One of the great features of the MD is that you can search for desired tracks quickly. There are also quick and easy functions for random playback, in which the order of the tracks can be rearranged at random, and for renumbering tracks enabling them to be played in any order.

THE LIMITATIONS OF MD

Recording on the MD is performed differently from that of a cassette tape or a DAT. Therefore, the MD system is subject to the following restrictions.

"TOC* Full" is displayed even if the recording time does not reach the maximum recordable time of the disc
"TOC Full" is displayed when 254 tracks are already recorded on a disc, without respect to the recording time.
*TOC: An abbreviation of Table Of Contents

"TOC Full" is displayed even if a disc is not fully recorded on
If there are lots of emphasis data in a particular track, the unit handles the data as index codes, and tracks are counted, in addition, without respect to the time and number of tracks.

The remaining time on a disc is not increased even after some short tracks have been erased
When the remaining time on a disc is displayed, it may not be increased even after erasing short tracks because the sections less than eight seconds are not counted.

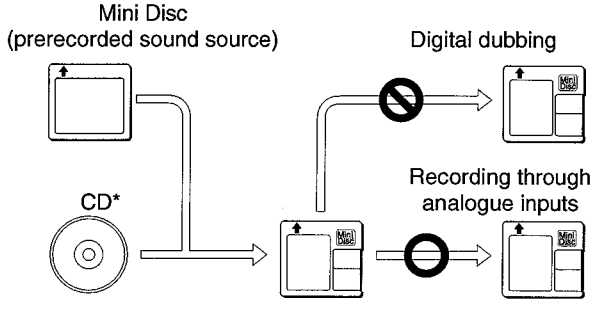
Certain tracks cannot be joined (the COMBINE function does not function)
- Tracks created by editing may not be joined.
- It is not possible to combine a track recorded in monaural and a track recorded in stereo.

The total of the recorded time and the remaining time on a disc does not match the maximum recordable time of the disc
Recording is performed in a minimum unit of one cluster (two seconds). Even if the recorded section is shorter than two seconds, a two-second space is needed in recording. Therefore, the available time becomes shorter.

Track numbers may not be registered properly
When recording from a CD with **CD ▶ MD**, small tracks may be created depending on the contents of a CD.
When using the AUTO MARK function, track numbers may not be registered properly depending on the contents of the CD.

Digital inputs may not be acceptable
When digital recording is attempted from recorded material with copyrights, digital dubbing cannot be performed to a recordable MD from another MD recorded in digital because of the built-in record restriction function which complies with the SCMS* standard.

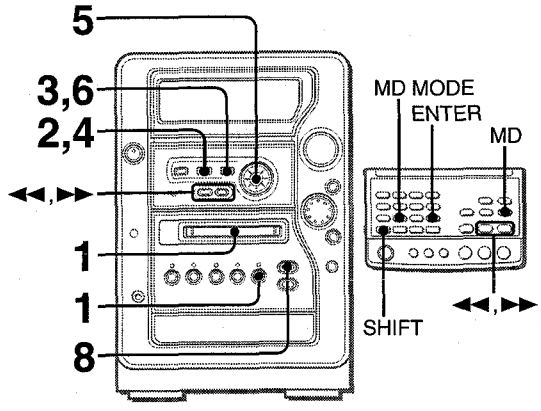
* SCMS (Serial Copy Management System) is the standard to restrict single digital dubbing between digital audio systems thus protecting copyrights.



* Recording from a digitally recorded CD-R/RW to an MD is not possible.

REGISTERING THE DISC TITLE AND TRACK TITLE

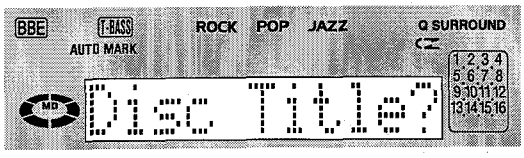
You can register the titles of the discs and tracks according to the CD which you made the recording from. Personal messages also can be registered.



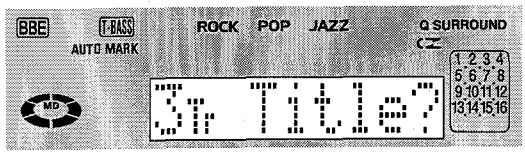
Use Panel 3 (page 8).

***1* Press MD and load an MD.**

***2* a) To register a disc title**
Press MD MODE on the main unit.
When using the remote control, press **MD MODE** while pressing **SHIFT**.
"Disc Title?" is displayed.

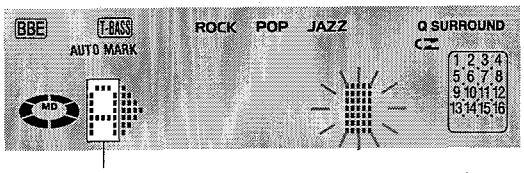


b) To register a track title
Select a track to register the title with ◄◄ or ►►, then press MD MODE.
Or start play of the track to register the title using the numbered buttons on the remote control, then press **MD MODE** while pressing **SHIFT**.
Example: When registering a title for the 3rd track



***3* Within 10 seconds, press ENTER.**
The unit turns into character entry mode.

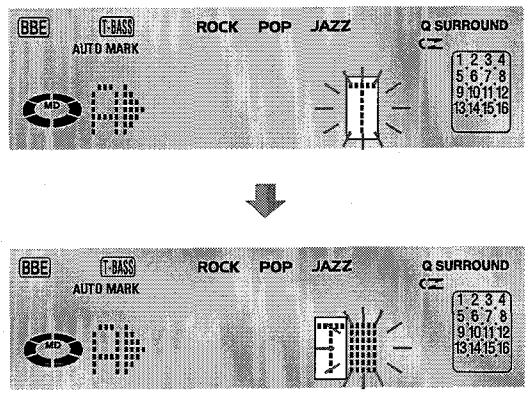
***4* Press MD MODE on the main unit repeatedly to select the kind of character.**
Alternatively, press **MD MODE** on the remote control repeatedly while pressing **SHIFT**.



→ Capital letters A ⟶ Small letters a* →
Number/symbols 0 ←

* "a" is not displayed with the remote control. Display "A" to enter either capital letters or small letters.

***5* Enter characters.**
On the main unit, turn **MD JOG** to select a desired character, then press ►►.
On the remote control, press the character buttons (page 30) several times to select a desired character, then press ►►.



When you press ►►, the selected character moves one column to the left.

***6* Repeat steps 4 and 5 to enter all the required characters (up to 50 characters.)**
Note that the total number of characters that can be entered for one disc is approximately 1,600.

***7* When title was entered in stop mode, press ENTER within 1 minute.**
When title was entered in play mode, press ENTER, then ■ to stop play.

***8* Press ≙MD EJECT to eject the MD.**
"TOC EDIT" is displayed and the entered title is registered.

NOTE

- If the unit is left for 1 minute at steps 4 and 5, the character entry mode is cancelled.
- If you enter a track title while playing the track, play is repeated until the entering finishes.

Editing characters while in entry mode

- **To change a character during entering**
  Press ◄◄ or ►► repeatedly until the character to be changed flashes. Then enter the desired character again.
- **To delete characters**
  Press ◄◄ or ►► repeatedly until the character to be deleted flashes. Then press ❚❚ on the remote control.
- **To insert a space between the characters**
  Press ◄◄ or ►► repeatedly until the part to be entered as a space flashes. Then press ►/◄► on the remote control.
- **To add a character between two characters**
  First, insert a space between two characters. Then change the space to the desired character by entering it.

These characters can be used

Capital letters: □ (space) A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Small letters: □ (space) a b c d e f g h i j k l m n o p q r s t u v w x y z
Numbers and symbols: □ (space) 0 1 2 3 4 5 6 7 8 9 ! " # $ % & ' ( ) * + , − . / : ; < = > ? @ _ `

CHARACTERS ASSIGNED TO BUTTONS ON THE REMOTE CONTROL

To enter character with the remote control, select the kind of character, then press repeatedly the button to which the desired character is assigned until the desired character is displayed.

Buttons on the remote control	Assigned characters	
	"A►"	"0►"
"1"	–	1
"2"	ABCabc	2
"3"	DEFdef	3
"4"	GHIghi	4
"5"	JKLjkl	5
"6"	MNOmno	6
"7"	PQRSpqrs	7
"8"	TUVtuv	8
"9"	WXYZwxyz	9
"0"	! " # $ % & ' ( ) * + , – . /: ; < = > ? @ _ `	0

REGISTERING TRACK TITLE DURING RECORDING

Track tiltes can be registered during recording onto an MD.
In this case, the total number of characters that can be entered is approximately 480.
Note that titles cannot be registered for the tracks recorded before performing the current recording.

1 **During recording, press MD MODE on the main unit, or press MD MODE while pressing SHIFT on the remote control.**
The track number currently being recorded is displayed.
Example:
"3Tr Title?" is displayed when the 3rd track is being recorded.

2 **Press ◄◄ or ►►, or turn MULTI JOG to select the track number you want to register a title.**

3 **Within 10 seconds, press ENTER.**

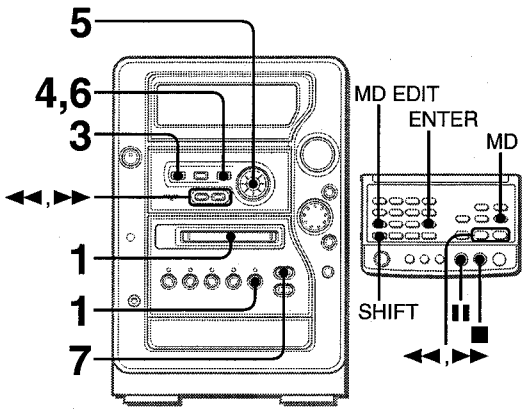
4 **Follow the steps 4 to 6 on page 29.**

5 **Press ENTER.**

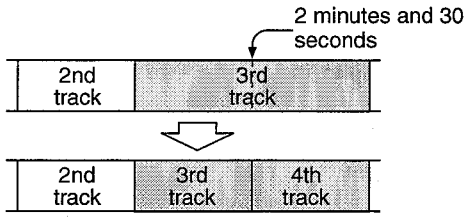
NOTE

- While "TOC EDIT" is displayed, do not disconnect the AC cord or do not give a strong shock to the unit. If this happens, the data of TOC will not be recorded properly and the edited contents on a disc will not be able to be played.
- A disc cannot be edited:
  - when a prerecorded disc is inserted ("PB Disc" is displayed.)
  - when the record-protect tab on a loaded disc is moved to the protected position ("Protected" is displayed.)
  - during programmed play
- When you try to edit a disc while in random play mode, random play mode will be cancelled.

DIVIDING A TRACK



You can divide a track into two tracks by registering an index mark.
Example
To divide the 3rd track into two tracks at 2 minutes and 30 seconds:

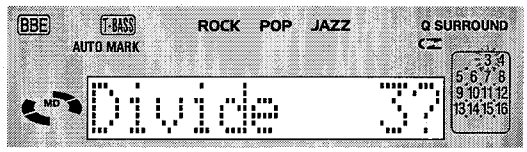


- To operate on the main unit, set the rotary panel to Panel 1 (page 8).
- To operate using the buttons on the main unit and the remote control, set the rotary panel to Panel 3.

1 **Press MD and load an MD.**

2 **During play of the track to be divided, press II at the point where you want to divide the track.**
The unit enters the pause mode.
When you pressed II on the main unit, set the rotary panel to Panel 3.

3 **Press MD EDIT repeatedly so that "Divide" is displayed.**
When using the remote control, press **MD EDIT** repeatedly while pressing **SHIFT**.
Example: When dividing the 3rd track



4 **Within 10 seconds, press ENTER.**
The unit pauses at the point where you want to divide and repeatedly plays the 3 seconds after that point.

5 **Adjust the point to be divided with ◄◄ or ►►, or MD JOG, referring to the playback sound.**

6 **Within 1 minute, press ENTER.**
An index mark is registered and the track number advances by one.
When operating on the main unit, set the rotary panel to Panel 1.
Press II to resume play.

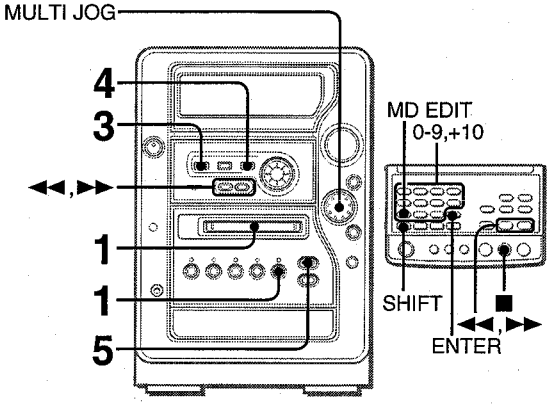
7 **Press ■ to stop play.**

8 **Press ▲MD EJECT to eject the MD.**
"TOC EDIT" is displayed and the data concerning the contents of editing are recorded.

NOTE

- If the track had a title before the division, the title is assigned to the first half of the divided track.
- A track cannot be divided when the loaded disc already contains 254 tracks.

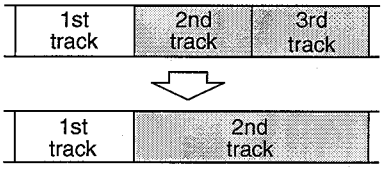
COMBINING TWO TRACKS



You can combine two tracks by erasing the index mark in between.

Example

To combine the 2nd and the 3rd track by erasing the index mark at the beginning of the 3rd track:



- To operate on the main unit, set the rotary panel to Panel 3 (page 8).

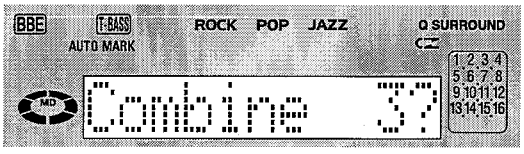
***1* Press MD and load an MD.**

***2* Select or play the latter track of the two tracks to be combined using MULTI JOG on the main unit, the numbered buttons on the remote control, or ◀◀ or ▶▶.**

***3* Press MD EDIT repeatedly so that "Combine" is displayed.**

When using the remote control, press **MD EDIT** repeatedly while pressing **SHIFT**.

Example: To combine the 2nd and 3rd tracks, select or play the 3rd track.



***4* Within 10 seconds, press ENTER.**

The two tracks are combined.

The track numbers from this point forward are decremented by 1.

When operated in play mode, press ■ to stop play.

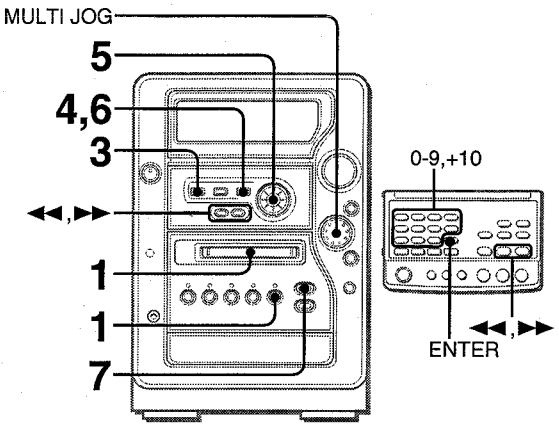
***5* Press ⏏MD EJECT to eject the MD.**

"TOC EDIT" is displayed and the data concerning the contents of editing are recorded.

NOTE

- If both of the tracks are titled, the title of the lower numbered track remains. If only one track is titled on the tracks to be combined, this title remains.
- You cannot combine a track recorded in monaural and a track recorded in stereo.
- For tracks recorded in stereo: any tracks less than 8 seconds cannot be combined with another adjacent track.
  For tracks recorded in monaural: any tracks less than 16 seconds cannot be combined with another adjacent track.

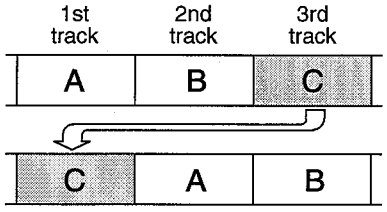
CHANGING THE ORDER OF THE TRACKS



You can change the order of tracks after completing a recording.

Example

To move the 3rd track to the 1st position



- To operate on the main unit, set the rotary panel to Panel 3 (page 8).

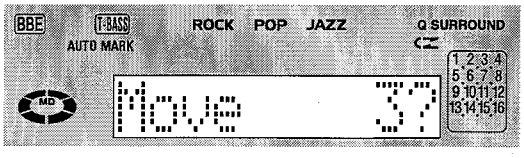
***1* Press MD and load an MD.**

***2* Select or play the track to be moved using MULTI JOG on the main unit, the numbered buttons on the remote control, or ◀◀ or ▶▶.**

***3* Press MD EDIT repeatedly so that "Move" is displayed.**

When using the remote control, press **MD EDIT** repeatedly while pressing **SHIFT**.

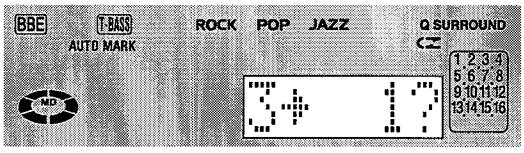
Example: When moving the 3rd track



***4* Within 10 seconds, press ENTER.**

5 Turn MD JOG to select the new track number for the track to be moved.

Example: When moving the 3rd track to the 1st position



To select the new track number, use MD JOG on the main unit.

6 Within 10 seconds, press ENTER.

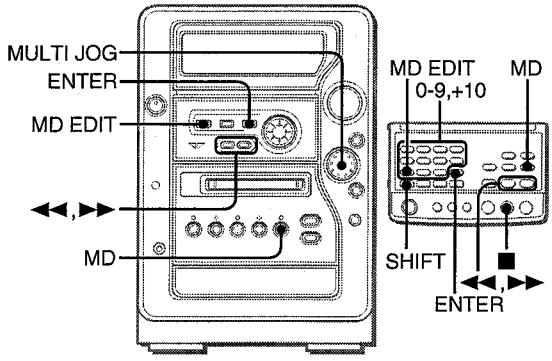
The order of tracks is changed.

When operated in play mode, press ■ to stop play.

7 Press ≙MD EJECT to eject the MD.

"TOC EDIT" is displayed and the data concerning the contents of editing are recorded.

ERASING TRACKS



ERASING ALL TRACKS ON A DISC

NOTE

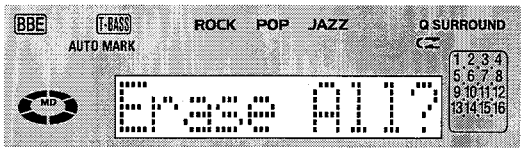
If you erase all the tracks, you cannot retrieve them again.

- To operate on the main unit, set the rotary panel to Panel 3 (page 8).

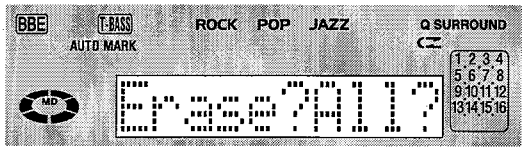
1 Press MD and load an MD.

2 In stop mode, press MD EDIT repeatedly so that "Erase All?" Is displayed.

When using the remote control, press **MD EDIT** repeatedly while pressing **SHIFT**.



3 Within 10 seconds, press ENTER.



Make sure that it is all right to erase all tracks.

To cancel erasing tracks, press ■ on the remote control or wait for 1 minute.

4 Within 1 minute, press ENTER.

"TOC EDIT" is displayed and all tracks on the inserted disc are erased.

After completion of the erasure, "Blank Disc" is displayed.

ERASING A SINGLE TRACK

- To operate on the main unit, set the rotary panel to Panel 3 (page 8).

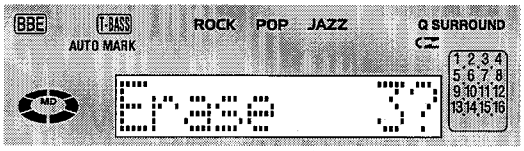
1 Press MD and load an MD.

2 Select or play the track to be erased using MULTI JOG on the main unit, the numbered buttons on the remote control, or ◀◀ or ▶▶.

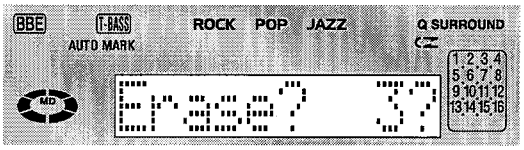
3 Press MD EDIT repeatedly so that "Erase" is displayed.

When using the remote control, press **MD EDIT** repeatedly while pressing **SHIFT**.

Example: When erasing the 3rd track



4 Within 10 seconds, press ENTER.



Make sure that it is all right to erase the track.

To cancel erasing the track, press ■ on the remote control or wait for 1 minute.

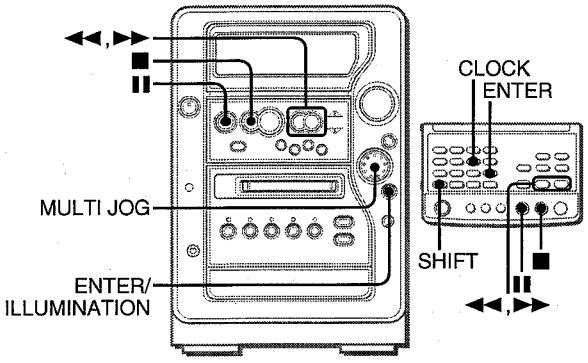
5 Within 1 minute, press ENTER.

When operated in play mode, press ■ to stop play.

The selected track is erased and all succeeding track numbers are decreased by 1.

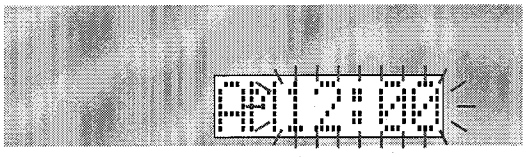
"TOC EDIT" is displayed and the data concerning the contents of editing are recorded.

SETTING THE CLOCK



1 Press CLOCK while pressing SHIFT on the remote control. (You may press ❚❚ while the power is off.)

The clock is displayed. When the power cord is plugged into an AC power socket for the first time after purchase or when the clock setting is cancelled due to a power failure, the entire clock display flashes.



2 Within 4 seconds, turn MULTI JOG to designate the hour and the minute.

Turn **MULTI JOG** to the right to advance the time and to the left to move the time back. The speed with which the time changes varies according to how fast you turn **MULTI JOG**. You can also press ◀◀ or ▶▶. Holding these buttons down will vary the time in 10-minute units.

3 Press ENTER/ILLUMINATION or ❚❚.

You may press **ENTER** or ❚❚ on the remote control.
The clock starts form 00 seconds.

To view the clock when another display is in the display window

Press **CLOCK** while pressing **SHIFT** on the remote control.
The time is displayed for 4 seconds and then the original display reappears.
However, the clock cannot be displayed during recording.

To switch to the 24-hour standard

Press **CLOCK** while pressing **SHIFT** on the remote control, and then press ■ within 4 seconds.
Repeat the same procedure to restore the 12-hour standard.
In the 12-hour standard, "AM 12:00" indicates midnight and "PM 12:00" indicates noon.

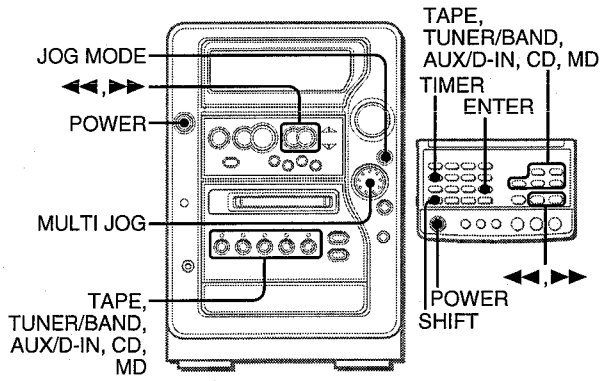
When the clock is set for the first time after purchase

All the display lights turn off when the power is off. (Only the red indicator lights up.)
This is because the power economizing mode of the unit is activated, and is not a malfunction. To view the clock in this case, press **CLOCK** while pressing **SHIFT** on the remote control so that the time is displayed for 4 seconds. Besides, the time will be displayed if you deactivate the power economizing mode. (See page 7 for details.)

If the clock display flashes

If the display flashes when the clock is displayed, it indicates that the clock has stopped due to a power failure or the removal of the power cord. The current time needs to be reset.

SETTING THE TIMER PLAYBACK AND TIMER RECORDING



The unit can be turned on at a specified time every day with the built-in timer.
First, make sure the clock is set correctly.

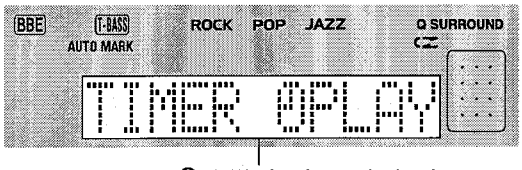
Use Panel 1 (page 8).

1 Select the source.

For timer playback, press **TUNER/BAND**, **TAPE**, **CD**, **MD** or **AUX/D-IN**.
For timer recording, start from step 2.

2 Select timer playback or timer recording.

Press **JOG MODE** repeatedly until "TIMER OFF" appears on the display, and within 6 seconds, turn **MULTI JOG** to select timer playback or timer recording.
When using the remote control, press **TIMER** repeatedly while pressing **SHIFT**.



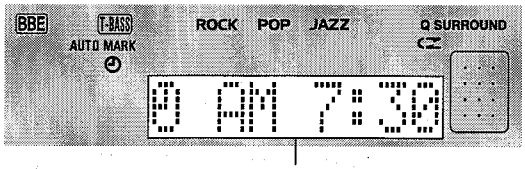
"TIMER⏲PLAY" for timer playback
"TIMER⏲REC" for timer recording

3 Within 6 seconds, press ENTER/ILLUMINATION.

When using the remote control, press **ENTER**.
Time and source display flash alternately.

4 Set the timer-on time.

Turn **MULTI JOG** to the right to advance the time and to the left to move the time back. The speed with which the time changes varies according to how fast you turn **MULTI JOG**. You can also use ◄◄ or ►►. Holding these buttons down will vary the time in 10-minute units.
For timer playback, skip to step 6.



Timer-on time

5 For timer recording, select the source and recording designation.

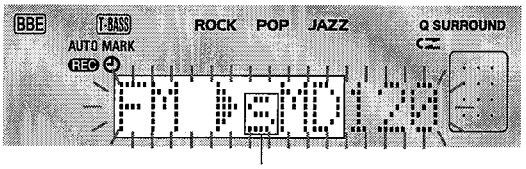
Select source:

- To record from the radio broadcast, press **TUNER/BAND** to display "FM", "MW" or "LW". (You will select the band and station later in step 11.)
- To record from the connected equipment, press **AUX/D-IN** to display "AUX" or "D-IN" . (You will select the equipment later in step 11.)

Select recording designation:

- To record on an MD, press **MD**.
- To record on a tape, press **TAPE**.

Example: When recording from the radio broadcast onto an MD



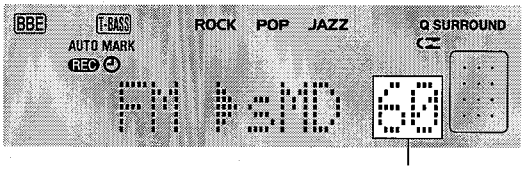
"s" for stereo recording onto MD
"m" for monaural recording onto MD
(You will select either the stereo or monaural recording later in step 9.)

6 Press ENTER/ILLUMINATION.

When using the remote control, press **ENTER**.

7 Within 4 seconds, set the duration for the timer-activated period.

Turn **MULTI JOG**, or press ◄◄ or ►► to set the duration.
The duration can be set between 5 and 240 minutes in 5-minute units.
Example: for timer recording



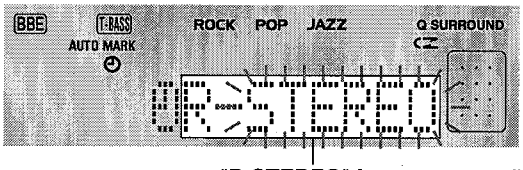
Timer-activated period

8 Within 4 seconds, press ENTER/ILLUMINATION.

When using the remote control, press **ENTER**.
For timer playback and timer recording onto a tape, go to step 11.

9 For timer recording onto MD: select stereo recording or monaural recording.

Turn **MULTI JOG**, or press ◄◄ or ►►.



"R-STEREO" for stereo recording
"R-MONO" for monaural recording

10 Press ENTER/ILLUMINATION.

When using the remote control, press **ENTER**.

11 Prepare the source.

- For timer play of a CD, load the CD.
- For timer play of an MD, load the MD.
- For timer play of a tape, load the tape.
- For timer play/recording of a radio broadcast, press **TUNER/BAND** to select the band and tune in to the desired station.
- For timer play/recording of the equipment connected to the DIGITAL IN jack, press **AUX/D-IN** on the remote control repeatedly so that "D-IN" is displayed, and set the timer of the equipment so that play begins at the same time.
- For timer play/recording of the equipment connected to the AUX/VIDEO IN jacks, press **AUX/D-IN** on the remote control repeatedly so that "AUX" is displayed, and set the timer of the equipment so that play begins at the same time.

12 For timer recording: Load the MD or tape to be recorded.

13 Adjust the volume and tone.

The source sound will be audible at the volume set here when the power turns on at the set time.

- If the power economizing mode is activated, the volume for timer recording will be 0 (minimum level). To monitor the sound being recorded, deactivate the power economizing mode.

14 Press POWER to turn off the unit.

◴, or ◴ and **REC** remain on the display after the power is turned off (when the power economizing mode is deactivated).
When the timer-on time is reached, the unit turns on and begins to play (or to record) with the selected source.
If the volume level was set to higher than 20 when the power has turned off, it is automatically set to 20 when the unit turns on by the timer.

NOTE

- Timer playback and timer recording will not begin unless the power is turned off.
- If you use the unit while the timer is set, repeat steps 11 to 13 to prepare the source and the recording destination, and adjust the volume and tone before turning off the power.
- Timer recording from a tape, CD or MD is not possible.

To check the timer setting

Press **TIMER** while pressing **SHIFT** on the remote control. The selected source, the timer-on time, and the duration for the timer-activated period will be displayed for 4 seconds.

To change the timer setting

Set the timer again from the beginning.

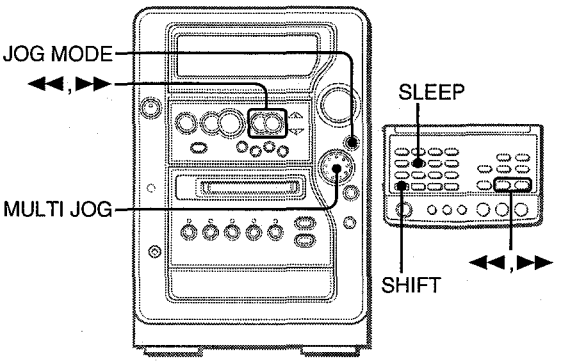
To cancel the timer standby mode

Press **JOG MODE** repeatedly to call up the timer setting display, then turn **MULTI JOG** so that "TIMER OFF" is displayed, and press **ENTER/ILLUMINATION**.
When using the remote control, press **TIMER** repeatedly while pressing **SHIFT** so that "TIMER OFF" is displayed.

To check the remaining time until the power is turned off during timer play/recording
Press **SLEEP** while pressing **SHIFT** on the remote control.
The remaining time will be displayed for 4 seconds.

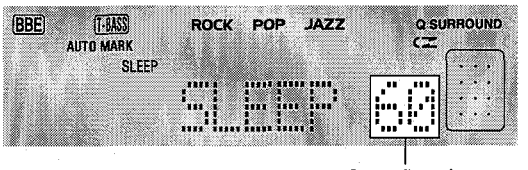
SLEEP TIMER

You can turn off the unit automatically at any desired time within 4 hours.



***1* Press JOG MODE repeatedly until "SLEEP" appears on the display.**
When using the remote control, press **SLEEP** while pressing **SHIFT**.

***2* Within 4 seconds, press ◄◄ or ►►, or turn MULTI JOG to specify the time until the power is turned off.**
The time can be set between 5 and 240 minutes in 5-minute units.

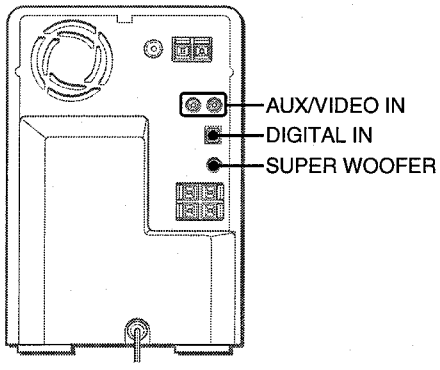


Specified time

To check the time remaining until the power is turned off
Press **JOG MODE** repeatedly until "SLEEP" appears on the display, or press **SLEEP** while pressing **SHIFT** on the remote control. The remaining time is displayed for 4 seconds.

To cancel the sleep timer
Press **JOG MODE** repeatedly until "SLEEP" appears on the display, and turn **MULTI JOG** so that "SLEEP OFF" is displayed. When using the remote control, press **SLEEP** twice while pressing **SHIFT**.

CONNECTING OPTIONAL EQUIPMENT



Refer to the operating instructions of the connected equipment for details.

- The connecting cords are not supplied. Obtain the necessary connecting cords.
- Consult your local AIWA dealer for optional equipment.

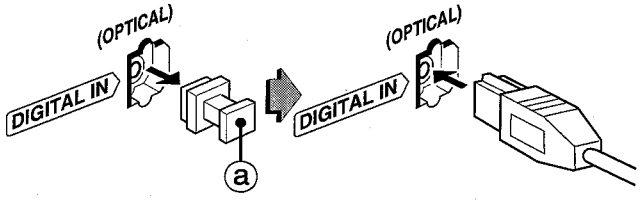
AUX/VIDEO IN JACKS

Analogue sound signals can be input through these jacks.
Use a cable with RCA phono plugs to connect audio equipment (turntables, LD players, MD players, VCRs, TV, etc.).
Connect the red plug to the **R** jack, and the white plug to the **L** jack.

When connecting a turntable
Use an AIWA turntable equipped with a built-in equalizer amplifier.

DIGITAL IN (OPTICAL) JACK

Digital sound signals can be input through this jack.
This unit has a built-in sampling frequency rate converter, which converts the sampling frequency rates that are different from the MD sampling frequency rate (BS/CS tuner or DAT (32 kHz or 48 kHz, and other digital signals) into a sampling frequency rate that can be recorded on an MD (44.1 kHz).
Use an optical cable to connect digital audio source equipment (DAT deck, MD player, etc.).
Remove the dust cap ⓐ from DIGITAL IN (OPTICAL) jack. Then connect an optical cable plug to DIGITAL IN (OPTICAL) jack.

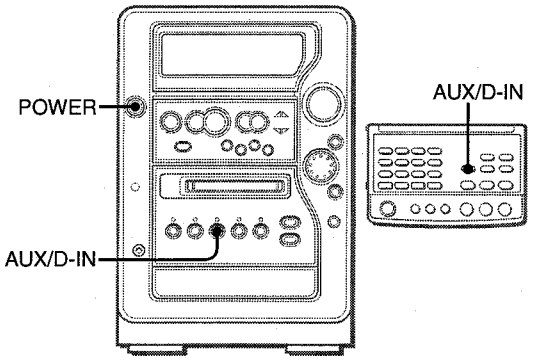


When DIGITAL IN (OPTICAL) jack is not being used
Attach the supplied dust cap.

SUPER WOOFER JACK

Connect an optional powered sub woofer with a built-in amplifier to the jack.

LISTENING TO EXTERNAL SOURCES



TO PLAY EQUIPMENT CONNECTED TO THE DIGITAL IN (OPTICAL) JACK

***1* Press AUX/D-IN until "D-IN" is displayed.**

***2* Play the connected equipment.**

TO PLAY EQUIPMENT CONNECTED TO THE AUX/VIDEO IN JACKS

***1* Press AUX/D-IN until "AUX" is displayed.**

***2* Play the connected equipment.**

To change a source name in the display
The "AUX" display can be changed to "VIDEO" or "TV", according to the equipment connected to the AUX/VIDEO IN jacks.
When "AUX" is displayed, press **POWER** while pressing **AUX/D-IN** on the main unit. Repeat the procedure to select one of the names.

To adjust the volume level of the equipment connected to the AUX/VIDEO jacks
Press **AUX/D-IN** to call up the "AUX" indication, then press ◄◄ or ►► repeatedly.
The volume level can be adjusted from "AUX MIN" (minimum), "AUX 1" to "AUX 6", followed by "AUX MAX" (maximum).

NOTE

When an MD is loaded during playback of external equipment connected to the DIGITAL IN jack, the playback sound becomes inaudible while the unit is reading the TOC data of the loaded MD.

CARE AND MAINTENANCE

Occasional care and maintenance of the unit and the software are needed to optimize the performance of your unit.

To clean the cabinet

Use a soft and dry cloth.
If the surfaces are extremely dirty, use a soft cloth lightly moistened with mild detergent solution. Do not use strong solvents, such as alcohol, benzine or thinner as these could damage the finish of the unit.

To clean the tape heads

When the tape heads are dirty;
- high frequency sound is not emitted
- the sound is not adequately high
- the sound is off-balance
- the tape cannot be erased
- the tape cannot be recorded on

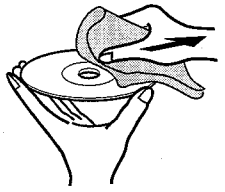
After every 10 hours of use, clean the heads with a head cleaning cassette.
Refer to the instructions of the cleaning cassette for details.

Care of tapes

- Store tapes in their cases after use.
- Do not leave tapes near magnets, motors, television sets, or any source of magnetism. This will downgrade the sound quality and cause noise.
- Do not expose tapes to direct sunlight, or leave them in a car parked in direct sunlight.

Care of CDs

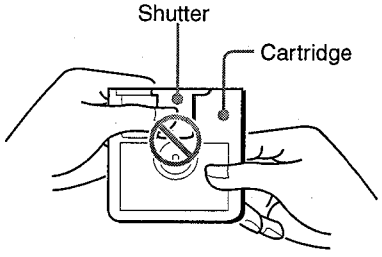
- When a CD becomes dirty, wipe the CD from the centre out with a cleaning cloth.



- After playing a CD, store the CD in its case. Do not leave the CD in places that are hot or humid.

Care of MDs

Since MDs come in a cartridge which protects the discs inside from fingerprints and dust, you do not have to be exeptionally careful when handling them. However, soiled or damaged cartridges can lead to malfunctions in the unit. Observe the following tips when handling MDs.
- Keep a cartridge in the attached case.
- Do not open the shutter of the cartridge to touch the disc directly. If the disc inside becomes soiled, it is very difficult to clean. The cartridge can also be damaged.
- Close the shutter if it opens while handling or ejecting a disc. Otherwise dust may enter or a disc may become scratched.



TROUBLESHOOTING

If the unit fails to perform as described in these Operating Instructions, check the following guide.

GENERAL

There is no sound.
- Is the AC cord connected properly?
- Is there a bad connection? (→ page 4)
- There may be a short circuit in the speaker terminals.
  → Disconnect the AC cord, then correct the speaker connections.
- Was an incorrect function button pressed?

Sound is emitted from one speaker only.
- Is the other speaker disconnected?

An erroneous display or a malfunction occurs.
→ Reset the unit as stated below.

All the display lights turn off when the power is off.
- Is the power economizing mode activated? (→ page 7)

The power is not turned on.
→ Disconnect the AC cord, and connect it again in a few seconds.

TUNER SECTION

There is constant, wave-like static.
- Is the antenna connected properly? (→ page 4)
- Is the signal weak?
  → Connect an outdoor antenna.

The reception contains noise interferences or the sound is distorted.
- Is the system picking up external noise or multipath distortion?
  → Change the orientation of the antenna.
  → Move the unit away from other electrical appliances.

CASSETTE DECK SECTION

The tape does not run.
- Is the deck in pause mode? (→ page 12)

The sound is off-balance or not adequately high.
- Is the recording/playback head dirty? (→ page 37)

Recording is not possible.
- Is the erasure prevention tab on the tape broken off? (→ page 13)
- Is the recording/playback head dirty? (→ page 37)

Erasure is not possible.
- Is the erase head dirty? (→ page 37)
- Is a metal tape being used?

High frequency sound is not emitted.
- Is the recording/playback head dirty? (→ page 37)
- Is a tape recorded without Dolby NR played back with the Dolby NR system operating? (→ page 13)

CD PLAYER SECTION

The CD player does not play.
- Is the disc correctly inserted? (→ page 14)
- Is the disc dirty? (→ page 37)
- Is the lens affected by condensation?
  → Wait for a few hours and try again.

MD RECORDER SECTION

The MD recorder cannot be operated.
- Is there a disc inside the unit?
  → Load a disc.
- Is the lens affected by condensation?
  → Wait for a few hours and try again.

Sound is noisy.
- Is the unit placed close to an object with a strong magnetic field such as a television?
  → Move the unit away from the television.

Sound is intermittent.
- Is the unit placed on an unstable surface with a lot of vibration?
  → Place the unit on a stable surface with no vibration.

Recording is not possible.
- Is **CD►MD** pressed when attempting to record from a source other than a CD?
- Is a prerecorded disc loaded?
  → Change to a recordable disc.
- Is the disc protected by the record- protect tab on the disc? (→ page 22)

To reset

If an unusual condition occurs in the display window, reset the unit as follows.

1 Press **POWER** to turn off the power.
2 Press **POWER** while pressing ■. Everything stored in memory after purchase is cancelled, and a demo display will appear.
3 Press **POWER** again to turn on the power.

If the power cannot be turned off in step 1 because of a malfunction, reset by disconnecting the AC cord, and connect it again. Then carry out step 2.

MD GUIDE MESSAGES

Message	Cause	Solution
Blank Disc	Nothing is recorded on the disc.	—
Can't Edit	Tracks are too short to be joined.	See "THE LIMITATIONS OF MD" on page 30.
	The combine function was used while playing back the first track.	
	The divide function was used at the beginning of the track.	
	The combine function was used to join a track recorded in monaural with a track recorded in stereo.	
Protected	The disc is record-protected.	Slide the record-protect tab on the disc. (See page 24.)
Disc Err	The disc is damaged by scratches.	Replace the disc.
	The TOC data is not proper.	
Disc Full	There is not enough time remaining on the disc to record.	Replace the disc with another recordable disc.
Temp Over	The temperature of the unit is too high.	Leave the unit in a cool place for a while before operating it again.
	The surrounding temperature is too high or too low.	Operate the unit at moderate room temperature.
Emergency	The unit operates abnormally due to a scratched disc or a strong shock.	Replace the disc. Do not subject the disc to a strong shock.
PB Disc	There is an attempt to record or edit a prerecorded music disc (optical disc).	Replace the disc with a recordable one.
TOC Full	There are too many tracks or emphasis data to be recorded or edited, or there is no room on the disc.	Erase tracks to reduce tracks.
Mecha Err	Error occurs in the loading mechanism. (All functions concerning to MD will be disabled.)	Turn the power off and disconnect the AC cord once. Then connect the AC cord, and turn the unit on again. If you cannot still remove an MD, consult your local Aiwa dealer.
Can't Copy	Dubbing is prohibited by the SCMS standard.	—
No Signal	The digital connecting cord (optical) is not plugged in properly.	Plug it in properly. Check that the connected equipment is in playback mode, or it is connected properly.
MD Err	A trouble occurs in the MD unit.	Refer to your local Aiwa dealer.
UTOC Err	TOC data is not registered correctly due to a strong shock during recording TOC edit or TOC reading.	Replace the disc. Do not subject the disc to a strong shock during TOC reading or TOC recording.
LONG CD	The playing time of CD to record is longer than the recordable remaining time of MD.	Replace the disc. (Press again **CD►MD** to record to the end of the recordable remaining time.)

DISPLAY INFORMATION

If you press **DISPLAY** on the main unit, or press **DISPLAY** on the remote control while pressing **SHIFT**, the display changes as follows.

WHEN THE SOUND SOURCE IS THE TUNER

① Level indicator
② Band and frequency
(Example: FM 89.00MHz)
③ Remaining recordable time on MD (displayed for 4 seconds, only when a recordable MD is loaded)
(Example: Rem –48:07)

- The level indicator cannot be displayed when the unit tunes in to an FM RDS station.
- When an MD is loaded: The level indicator will be displayed only when 4 seconds have elapsed after the band and frequency are displayed.

WHEN THE SOUND SOURCE IS A TAPE

In stop mode

① Tape counter
(Example: TAPE 0000)
② Remaining recordable time on MD (displayed for 4 seconds, only when a recordable MD is loaded)
(Example: Rem –48:07)

In play mode

① Level indicator
② Tape counter
(Example: TAPE 0123)
③ Remaining recordable time on MD (displayed for 4 seconds, only when a recordable MD is loaded)
(Example: Rem –48:07)

- When an MD is loaded: The level indicator will be displayed only when 4 seconds have elapsed after the tape counter is displayed.

WHEN THE SOUND SOURCE IS A CD

In stop mode

① Total number of tracks and total playing time of the CD
(Example: 10Tr 58:31)
② Remaining recordable time on MD (displayed for 4 seconds, only when a recordable MD is loaded)
(Example: Rem –48:07)

In play mode

① Level indicator
② Track number being played and elapsed playing time
(Example: 3Tr 3:43)
③ Remaining time of play
(Example: –26:15)
④ Remaining recordable time on MD (displayed for 4 seconds, only when a recordable MD is loaded)
(Example: Rem –48:07)

- During random play or programmed play, remaining time of playback is not displayed.
- When an MD is loaded: The level indicator will be displayed only when 4 seconds have elapsed after the track number being played and elapsed playing time are displayed.

WHEN THE SOUND SOURCE IS AN MD

In stop mode

① Total number of tracks and total playing time of the MD
(Example: 10Tr 58:31)
② Disc title
(If the disc title is not registered, "No Title" is displayed)
③ Remaining recordable time on MD (displayed for 4 seconds)
(Example: Rem –48:07)

In play mode

① Level indicator
② Track number being played and elapsed playing time
(Example: 3Tr 3:43)
③ Track title
(If the track title is not registered, the track number is displayed.)
④ Remaining time of play
(Example: –48:07)

- During random play or programmed play, remaining time of playback is not displayed.

WHEN RECORDING FROM CD TO MD

① Level indicator for CD
② Track number and elapsed playing time of CD
(Example: CD 1Tr 1:23)
③ Track number and remaining playback time of CD
(Example: CD 1Tr –48:07)
④ Remaining recordable time on MD
(Example: MD –52:33)
⑤ Track number and elapsed recording time on MD
(Example: 5Tr MD 4:36)

- The remaining playback time of CD is not displayed while performing programmed recording from CD to MD.

DURING MANUAL RECORDING FROM A TAPE, TUNER OR CONNECTED EQUIPMENT TO MD

① Level indicator for the source
② Source name
(Example: AUX)
③ Remaining recordable time on MD
(Example: MD –52:33)
④ Track number and elapsed recording time on MD
(Example: 5Tr MD 4:36)

SPECIFICATIONS

Main unit

FM tuner section

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	16.8 dBf
Antenna terminals	75 ohms (unbalanced)

MW tuner section

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

LW tuner section

Tuning range	144 kHz to 290 kHz
Usable sensitivity	1400 µV/m
Antenna	Loop antenna

Amplifier section

Power output	Rated: 25 W + 25 W (6 ohms, T.H.D.1%, 1 kHz/DIN 45500) Reference: 30 W + 30 W (6 ohms, T.H.D. 10%, 1 kHz/DIN 45324)
Inputs	AUX/VIDEO IN: 310 mV DIGITAL IN (OPTICAL) Sampling frequency: 48 kHz/32 kHz Optical input level: more than –21 dBm
Outputs	SUPER WOOFER: 1.2 V SPEAKERS: accept speakers of 6 ohms or more PHONES (stereo mini jack): accepts headphones of 32 ohms or more

Cassette deck section

Track format	4 tracks, 2 channels stereo
Frequency response	CrO_2 tape: 50 Hz to 16000 Hz Normal tape: 50 Hz to 15000 Hz
Signal-to-noise ratio	45 dB (Dolby B NR ON, CrO_2 tape peak level)
Recording system	AC bias
Heads	Recording/playback head × 1, erase head × 1

Compact disc player section

Laser	Semiconductor laser (λ = 780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

MD recorder section

Scanning method	Non-contact optical scanner (Semiconductor laser application)
Recording system	Magnetic polarity modulation overwrite system
Rotation speed	Approx. 400 to 900 rpm (CLV)
Sampling frequency	44.1 kHz
No. of channels	Stereo: 2 channels Monaural: 1 channel
A-D, D-A converter	1-bit
Frequency	20 to 20000 Hz +0.5 - –1.5 dB
Wow and flatter	Unmeasurable

General

Power requirements	230 V AC, 50 Hz
Power consumption	90 W
Standby power consumption	1.0 W (power-economizing mode set to ON or AUTO)
Dimensions of main unit (W × H × D)	175 × 257 × 333 mm
Weight of main unit	6.5 kg

Speaker system

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer: 130 mm Tweeter: 22 mm cone type
Impedance	6 ohms
Output sound pressure level	86 dB/W/m
Dimensions (W × H × D)	155 × 254 × 210 mm
Weight	2.6 kg

Specifications and external appearance are subject to change without notice.

• US AND FOREIGN PATENTS LICENSED FROM DOLBY LABORATORIES LICENSING CORPORATION.

BBE

The word "BBE" and the "BBE symbol" are trademarks of BBE Sound Inc.
Under licence from BBE Sound Inc.

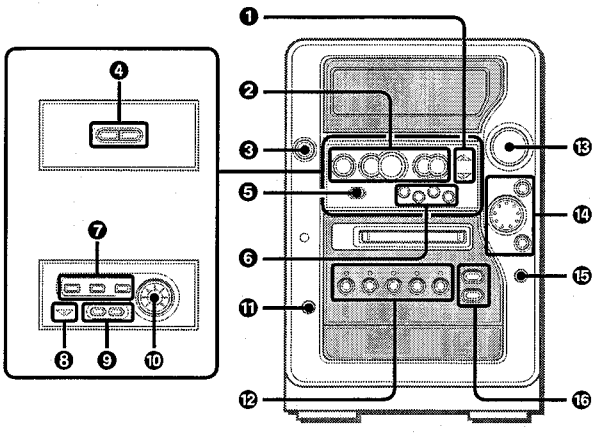
DOLBY NR

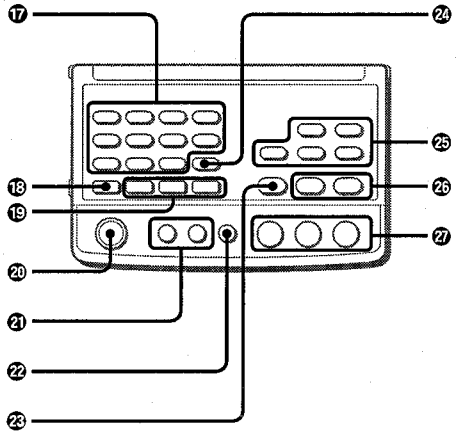
Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

COPYRIGHT

Please check the laws on copyright relating to recordings from discs, radio or external tape for the country in which the machine is being used.

PARTS INDEX





Name	Page
❶ TOUCH SENSOR	8
❷ ❚❚SET	11, 12, 14, 17, 19, 25, 26, 32, 33
■CLEAR	11, 12, 14, 17, 19-21, 23, 24-27, 30-33
◄►DIR/PRESET	11, 12, 14, 17, 24
◄◄/I◄◄, ►►I/►►	
TUNING DOWN/UP	10-12, 14, 17, 20, 21, 24, 31, 33-36
❸ POWER	6, 10, 34, 36
❹ TOUCH SENSOR	8
❺ DISPLAY	10, 12, 14, 17, 23, 25
❻ TAPE REC/REC MUTE	19-21
CD►MD&TAPE	27
CD►MD SYNCHRO REC (MD DIGITAL)	23, 24
MD REC	25, 26
❼ MD EDIT	30-32
MD MODE	25, 26, 29
ENTER	25, 26, 29-32
❽ TOUCH SENSOR	8
❾ ◄◄, ►►	29, 30
❿ MD JOG	25, 26, 29, 30, 32
⓫ PHONES	6
⓬ TAPE/REV MODE	6, 12,19, 25-27,33
TUNER/BAND	6, 10, 11, 19, 25, 26, 33
AUX/D-IN	6, 19, 25, 26, 33, 36
CD/CD BLANK SKIP	6, 14, 16, 19, 21, 24-26, 33
MD	6, 17, 19, 29-33
⓭ VOLUME	8
⓮ JOG MODE	8, 9, 12, 19-21, 27, 33, 35
MULTI JOG	7-9, 12, 19-21, 27, 33, 35
ENTER/ILLUMINATION	6, 7, 22, 25, 26, 33
⓯ DEMO/ECO	7
⓰ ▲MD EJECT	6, 17, 29-32
▲CD OPEN/CLOSE	6, 14

Name	Page
⓱ 0 - 9, +10	11, 14, 15, 17, 18, 20, 21, 24, 31
1/CD EDIT/CHECK	20, 21
2/RANDOM/REPEAT/ABC	15, 18
3/PROGRAM/DEF	15, 18, 24
4/DISPLAY/GHI	10, 12, 14, 17, 23, 25
5/TIMER/JKL	33
6/SLEEP/MNO	35
7/CLOCK/PQRS	33
8/MONO/TUV	10, 19
9/MD EDIT/WXYZ	30-32
0/MD MODE	25, 26, 29
+10/REC SEL	19-21, 23-27
⓲ SHIFT	6
⓳ BBE	9
T-BASS	8
Qsurround	9
⓴ POWER	6, 34
㉑ VOLUME –/+	8
㉒ EQ	9
㉓ ●REC	19-21, 23-27
㉔ ENTER	6, 22, 25, 26, 29, 30, 33
㉕ TAPE/REV MODE	12, 19, 27, 33
TUNER/BAND	10, 11, 19, 33
AUX/D-IN	19, 33, 36
CD/CD BLANK SKIP	14, 16, 19, 21, 24, 33
MD	17, 19, 29, 33
㉖ ◄◄/I◄◄, ►►I/►►	
TUNING DOWN/UP	10-12, 14, 17, 20, 21,29, 31-35
㉗ ❚❚SET	11, 12, 14, 17, 19, 25, 26, 29, 30, 33
■CLEAR	11, 12, 14, 15, 17-21, 23-27, 30-33
►/◄►PRESET	11, 12, 14, 15, 17, 18, 29